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ABSTRACT

This volume contains the proceedings of six Head Start research seminars held in Washington, D.C., from June 11, 1968 to April 18, 1969. The subject areas for each seminar were drawn from what was considered to be the most pressing issues in early childhood education research. There were (1) motivation, (2) the teacher and classroom management, (3) Head Start populations, (4) health and nutrition in early childhood, (5) intervention in family life, and (6) the teacher in intervention programs. The people who participated in and prepared papers for these seminars were selected by members of the Head Start Advisory Council and other eminent professionals, and were considered to be ‘‘expert authorities’’ in the individual subject areas. The emphasis of the seminars was, as evidenced by the subject areas settled on, improvement of educational opportunity for the disadvantaged child. The seminar on motivation, for example, stressed such poverty problems as learned helplessness, cooperation, and delay of gratification. The papers in this volume represent the final drafts after they had been exposed to careful criticisms and suggestions by those who heard them. A brief summary of the thrust of the seminars in included in the introduction. Seminar 1 on motivation is available as ED 024 464. The remaining seminars will appear in future issues of Research in Education. (MH)

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CRITICAL ISSUES IN RESEARCH RELATED TO DISADVANTAGED CHILDREN

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CRITICAL ISSUES IN RESEARCH RELATED TO DISADVANTAGED CHILDREN

Edith Grotberg, Editor

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September 1969.

FORWARD AND INTRODUCTION

Edith H. Grotberg

Forward and Introduction

This volume is the happy product of the cooperation and participation of many persons highly qualified in research on early childhood. Their efforts reflect concern not only for the broad research area of early childhood but also for the particular research needs of Project Head Start. The skill with which the seminar series combined and related the general and the specific research areas is a credit to the participants and to the inevitable realization that all aspects of research in early childhood must at some point converge.

The research seminars were set up in February, 1968, at a meeting called by the Research and Evaluation Office of Project Head Start. Those who attended were the members of the Head Start Research Advisory Council: Edmund Gordon, Ed.D.; Urie Bronfenbrenner, Ph.D.; and Edward Zigler, Ph.D., and members of the Research and Evaluation staff: John McDavid, Ph.D.; Lois-ellin Datta, Ph.D.; and Edith H. Grotberg, Ph.D.

The consultants who attended were eminent professionals who were selected to identify critical issues in research related to disadvantaged children from birth through third grade. These consultants were:

Hilda Knoblock, M.D.
Mt. Sinai Hospital, New York

Boyd McCandless, Ph.D.
Emory University, Atlanta

Morton Weir, Ph.D.
Children's Research Center
Urbana, Illinois

Martha Rashid, Ed.D.
George Washington University
Washington, D.C.

Philip Hauser, Ph.D. (did not participate due to illness)
Population Research and Training Center
Chicago, Illinois

The group was asked to assist in identifying research issues to be studied intensively and to identify one or two appropriate expert authorities in each area who would be asked to prepare position papers for a series of semiaars during 1968 and 1969. The seminar papers would consider current theories and methods of research and their pertinence to planning actual programs for disadvantaged children. These papers would be presented to seminar groups for critical discussion, and the proceedings of these seminars were to be published for dissemination to the child development and early education research community.

The subject areas of research issues, the expert authorities, and the scheduling of the research seminars which finally evolved were these:

First Seminar - June 11, 1968

Motivation

Dr. Urie Bronfenbrenner
Dr. Melvin Kohn
Dr. Thomas Pettigrew
Dr. John Condry
Dr. Walter Mischel

Second Seminar - July 22, 1968

The Teacher and Classroom Management

Dr. Martha Rashid
Dr. Ira Gordon
Dr. Martin Haberman
Dr. Helen Richards

Third Seminar - October 9, 1968

Head Start Populations

Dr. Robert Boger
Dr. Myles Friedman
Dr. Kuno Beller

Fourth Seminar - November 1, 1968

Health and Nutrition in Early Childhood

Dr. A. Frederick North, Jr.
Dr. Herbert Birch
Dr. Robert Haggerty
Dr. Marsden G. Wagner

Fifth Seminar - January 13, 1969

Intervention in Family Life

Dr. Robert Hess
Dr. Ira Gordon
Dr. Daniel Scheinfeld

Sixth Seminar - April 18, 1969

The Teacher in Intervention Programs

Dr. Irving Sigel
Dr. Henri Schalock
Dr. John McDavid
Dr. Kuno Beller

The one area recommended but not included was that of infancy. The realization that several major conferences were to be held during 1968 devoted to infancy made its inclusion in the research seminars inadvisable. This was particularly true when the specialists in infancy were already committed to some of these other conferences.

Each of the research seminars was held in Washington, D.C., and included presentation of papers and responses from other participants as well as those who attended as an audience. This volume contains the final drafts of papers after they had been exposed to careful criticisms and suggestions by those who heard them. While each paper needs to be read to grasp the significance of the contribution to research findings and directions in early childhood, a brief summary of the thrust of the seminars may help orient the reader.

Motivation - The problem of the disadvantaged child must go beyond impaired intellectual functioning or cognitive socialization to socialization across the board. The acquisition of cognitive competence alone may still leave the child incapable of functioning in the society unless he acquires motivational characteristics and patterns. These include an increased sense of control over one's environment, the capacity to defer immediate for later gratification, skills in working cooperatively with others, patterns of socially responsible behavior, and techniques for non-destructive resolution of personal and interpersonal problems.

The research provides several general forms of environmental intervention which appear to be especially effective in influencing the behavior and development of children. These are behavioral models, social reinforcement, intensive relationship, group pressures and forces, and superordinate goals. Application of these intervention forms to Head Start populations would include: (1) provision for family involvement in activities of the program in school, in the neighborhood center, and in the home with emphasis on strengthening enduring emotional ties between the child and members of his family; (2) utilization of older children in activities with younger children both within and outside of school; (3) heterogeneous groupings within the classroom arranging for mutual aid and group recognition and approval; (4) establishing programs at the level of the school or Head Start Center rather than the isolated classroom for more comprehensive involvement; (5) inviting community models to the classrooms; and (6) employing the superordinate goal toward which the total family and community may strive.

The Teacher and Classroom Management - Research on teachers as managers of the classroom has tended to separate preschool and primary grade programs. The research focus at the preschool level has been concerned with the teacher's influence upon the dependent or independent behavior of children and upon other behaviors in the general domain of personal and social development. Much of the research at the elementary level has been predominantly aimed at teacher competence or teacher effectiveness. Some comparative descriptive studies are needed to determine areas of similarity and difference between preschool and primary grade programs and the role perceptions of teachers at these levels.

Studies on adaptability and flexibility of teacher behavior appear continuously throughout the literature on teachers as classroom managers. Flexibility and adaptability are defined in many ways but generally indicate the ease and skill with which the teacher can shift managerial gears from one activity or situation to another. Further, it may refer to a teacher's capability of dealing with the unexpected or to the actual change in the teacher's behavior as the context for behavior changes in the classroom. The issue, however, goes beyond that of determining the role of flexibility in the teacher's management of the classroom to issues concerned with curriculum, because so often our goals are those of mastery of content and at the same time development of adequate social skills. We need more information about the degree to which the behavior of the teacher as an adult manager is coerced by activity settings. We need, further, to examine not only the behaviors which instructional goals are explicitly meant to achieve but also the behaviors which are not always planned for, those which arise from the requirements of the activity settings teachers provide.

Head Start Populations - The disadvantaged population is a heterogeneous group of people and research is meaningless and confounding when the population is regarded as homogeneous. New models are necessary to describe more accurately the varying behaviors of this heterogeneous population so that increasingly effective programs of compensatory education may be launched.

One model which attempts to describe behavior of subpopulation groups is a network concept which would serve first as a readiness model and secondly as an instructional model. The readiness view of the model is deterministic in that the acquisition of certain skills must always precede certain other skills. The instructional or curriculum view of the model contends that a particular sequence of experiences may be most appropriate for the large majority of learners while unique sequences may be most facilitating for particular learners. The model draws on measured performance of sub-population groups in both cognitive and psychomotor areas as the data from which both type and sequence of skills are determined.

Another behavioral model for young children is divided into three major sections: sub-populations as cultural groups, rural or urban locale, geographic area, social class, and sex; psychoeducational dimensions as intelligence, language skills, conceptual ability, perceptual ability, motivation and self-concept; and process variables as child rearing practices, reinforcement patterns, parental expectations, language patterns, family composition, stability, mobility, and the physical surroundings of the home. Profiling a child on these dimensions should provide the pertinent information concerning his readiness level and an appropriate direction for formal educational experiences.

A longitudinal study of disadvantaged children provides an evaluation of the effects of one or two years of early educational intervention on the intellectual and social development of the children. Their development is followed up over a period of years with a careful analysis and comparison of amount and time of compensatory educational intervention.

Health and Nutrition in Early Childhood - Many functionally important health problems found with some frequency in a group of children are well defined and easy to count. Research indicates that the prevalence of many health problems is related to socio-economic status but does not report the mechanisms by which this relationship is mediated. There are certain health findings--for example, anemia, poor dietary history and certain deviations of behavior and speech--that the medical profession is reluctant to label as health problems until much more evidence is available about their actual functional consequences.

Most screening tests used to identify these children who have functionally important health problems need much further definition in terms of reliability and validity. These include the series of tests and questionnaire items which are strung together in a physician's history and physical examination. All the descriptive and predictive tests of behavior and learning, as well as of nutrition and speech need further validation before they can be recommended for widespread use.

Research provides little information in determining what treatment or intervention techniques will be most effective in remedying the functionally important health problems. A good deal is known about many of the specific health problems found in children, but little is known about costs and benefits of one form of treatment or of no treatment at all. Much of the needed data will come from studies of the natural history of illness and from double blind studies of various forms of intervention, rather than from currently popular studies of molecular biology and pathophysiology. A continuing problem is the perpetuation of ineffective, untested intervention techniques because of the humanistic urge to do something to help even when there is no knowledge that what is done actually helps.

Intervention in Family Life - Even though stated objectives of programs designed to alter the relationships and interaction between parents and children are worthwhile, they may have some unintended consequences in their long term effects. There are constraints and limitations of what can be accomplished in working directly and solely with families themselves. These families are part of a larger social and cultural milieu and cannot help but be influenced by the larger context. It is possible, however, that changes brought about within the family, if they can be effected despite conflicting pressures, may in the long run produce changes in the social and cultural environment.

One consideration with respect to a program of intervention in family life is to recognize that such programs must be flexible and must change as the relationship between the family and the school is altered. As parents become more aware of the role of the teacher and of the school and their own possible effectiveness with their children, it seems likely that there will be other consequences in the community itself. For example, such programs may give rise to greater interaction among the mothers or may help create community organizations which become effective agents for community improvement.

The research consistently provides evidence that parents influence the intellectual, affective and interaction patterns of their children by the nature of the parent-child relationship. Different sub-populations have different parent-child relationships, but common to most deprived groups is the inappropriateness of much of the experience and the relationship for functioning in the larger society, particularly the schools. The question of intervention becomes one then, of first determining if the society changes for the deprived groups or the other way round. Intervention programs tend to begin from one of these premises.

The Teacher in Intervention Programs - Attention needs to be focused on a role analysis of the teacher vis-a-vis intervention programs, with particular emphasis on the multifaceted set of behaviors defining the teacher's function in an intervention situation. The teacher's role needs to be looked upon as that of a planner, a practitioner, and as an evaluator. Further, it is important to determine the teacher's capability of being a change agent and also subject to change, particularly modifying attitudes, feelings, as well as behaviors relevant to curriculum innovation.

Another view is that the focus on teacher attitude and feeling is in facta dead endand will lead to no effective change. A suggested model is termed comField, which is a competency based, field-centered model. Teachers, or prospective teachers, should be able to demonstrate prior to certification the functions that they are expected to be able to perform after certification, e.g., bringing about given learning outcomes with children, or bringing about specified parental involvements in programs. Teachers should become independent and self-directed learners so that they can adapt to varying situations that arise in the teaching process defined in terms relevant to the prospective teacher.

Another focus is on the teacher as a socialization agent. The teacher is seen as a manipulator of rewards and incentives, and as a management person using various techniques by which to facilitate or insure learning. Further, the teacher is an exemplary model where the teacher now is a model of behavior for the child.

Ongoing research was reported concerning learning environments with particular emphasis on the effect of the teacher on the child's learning environment. Important considerations are the extent to which the child is motivated to learn, to what extent the child is able to make the learning process a self-rewarding one, and the relationship between the child's learning process and external and internal support for such learning.

The participants and authors were generous in their provision of tables of findings and bibliographies and summaries of pertinent research. The present volume should prove useful to students, teachers, developers of compensatory programs, and to those concerned with the problems of the nation's impoverished children.

Edith H. Grotberg, Ph.D.
Research Coordinator
Research and Evaluation
Project Head Start

July 1969

Seminar #1

MOTIVATION

Urie Bronfenbrenner

MOTIVATIONAL AND SOCIAL COMPONENTS IN COMPENSATORY EDUCATION PROGRAMS

SUGGESTED PRINCIPLES, PRACTICES, AND RESEARCH DESIGNS[1]

Urie Bronfenbrenner[2]
Cornell University

I. The Problem

It is now generally recognized that the problems of the disadvantaged child cannot be viewed solely in terms of impaired intellectual functioning. Such a child has been deprived not only of cognitive socialization but of socialization across the board. Thus he has been prevented from developing not only the intellectual skills but also the motivational characteristics and patterns of behavior that permit successful and satisfying participation in the larger society. Among these are the development of a sense of control over one's environment, the capacity to defer immediate for later gratification, skills in working cooperatively with others, patterns of socially responsible behavior, and techniques for non-destructive resolution of personal and interpersonal problems. Unless the disadvantaged child is given the chance to develop these qualities as well, even the acquisition of cognitive competence may still leave him incapable of functioning as a productive, cooperative member of the community, for whom he remains an economic and social burden, if not a physical threat. Moreover, many of these motivational qualities and modes of response are essential for a child to be able to learn in school or to use and further develop such cognitive abilities and skills as he already possesses.

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[1] The ideas expressed in this working paper represent the implications for educational practice, as the author sees them, of recent research by a number of different investigators on the role of social factors in psychological development. For references to and discussion of the original studies on which this paper is based; see Bronfenbrenner, U. 1967.

The author has also drawn heavily on his experience as a member of the Planning Committee and of the Research Advisory Board for Project Head Start.

[2] The present document represents a revised draft incorporating suggestions made by a small working group brought together by the U.S. Office of Education to discuss the original version. Members of the group included: John Condry, David Cohen, James Coleman, Francis Palmer, Judith Crooks, Leonard Berkowitz, Gordon McAndrew, Lawrence Wyat, Robert Egbert, Jules Sugarman, Richard Snyder.

For these reasons, *any program seeking to meet the educational needs of disadvantaged children must address itself not only to the development of cognitive competence but also of patterns of motivation and behavior appropriate to a productive, cooperative society*.

The present paper examines the possibilities for implementing this broadened objective in the light of available evidence from research in child development and related fields. It seeks to identify the major principles underlying methods for developing constructive motives and behaviors in children, to illustrate how these principles might be applied in practical educational programs, and to call attention to possibilities and problems of research design for evaluating the effectiveness of particular procedures.

Our focus on the motivational and social components of compensatory programs should not be construed as reflecting reduced priority for purely cognitive concerns. Rather, cognitive, motivational, and social aspects are seen as complementary and essential to one another. Thus the principles and procedures here proposed are intended to be combined with and to reinforce the effectiveness of more traditional, instructional aspects of educational programs.

II. Principles and Possibilities

A review of the available research evidence in child development, social psychology, and related fields points to several general forms of environmental intervention which appear to be especially effective in influencing the behavior and development of children. These forms, which are closely interrelated, are conveniently discussed under five general headings: A) The Potency of Models, B) Social Reinforcement, C) Intensive Relationships, D) Group Forces, and E) Superordinate Goals. Under the first two headings, we describe briefly some basic processes involved in influencing the behavior and development of the child. Under the last three headings, we examine the social contexts in which these processes can be most effectively evoked and maximized.

A. The Potency of Models

The implications of contemporary research in this area can be summarized in six general statements:

1. Behavior change can be facilitated by placing the child in an environment in which he is exposed to models exhibiting the desired behavior pattern at a level which the child can emulate with some degree of success.

2. The model can influence the child's behavior in two ways:
    a. By doing something which the child has never experienced before, thus inducing him to engage in new patterns of behavior.
    b. By doing something already in the child's repertoire, thus inducing him to engage in this particular behavior rather than in some other activity.

    In terms of its long range impact on the child's behavior and development, the second of these influences is perhaps even more important than the first.

3. The potency of the model to induce behavior is considerably enhanced when the persons exhibiting the behavior are people with whom the child feels a strong emotional involvement, in particular his parents, playmates, and older children or adults who play a prominent role in his everyday life.

4. Although mere exposure to the model exhibiting a new pattern of behavior can lead to the induction of that behavior in the child, the optimal condition for learning from a model is one in which the child is engaged in increasingly more complex patterns of reciprocal interaction with the model--for example, conversation that gradually invokes wider vocabulary and complexity of structure, games involving progressive development of basic skills, etc.

5. The inductive power of the model increases with the extent to which the model is perceived as having a high status and control over resources. For example, experiments have shown that children are more likely to emulate a person who can grant presents or privileges than one who is the recipient of such benefits.

6. The inductive effect increases markedly when the behavior in question is exhibited not merely by a single individual but represents a salient feature in the actions of a group of which the child already is or aspires to be a member. Thus the child will tend to adopt patterns of behavior that are prominently engaged in his family, by his classmates, the neighborhood gang, older children whom he admires, etc.

Before examining the implications of these principles, it is useful to acquaint ourselves with a second, closely related strategy for evoking behavior change which does not require the presence of an external model although it can use such models to great advantage when they are available. In effect, this strategy uses the child's own behavior as a model to be improved upon through intensification and further development of that behavior.

B. Social Reinforcement

Other people can influence the child by serving not only as models but as reinforcing agents; that is, by giving affection, approval, or providing some other gratifying experience when the child exhibits the desired behavior (even if only in crude form), it is possible to increase the frequency and precision of that behavior on the part of the child. In recent years psychological research has revealed that the range and variety of stimuli which can serve as reinforcers for a child extend well beyond conventional conceptions of reward or approval. For example, investigators have demonstrated that vocalization in infants can be significantly increased by such seemingly inconsequential acts as a smile, a touch of the hand, a movement of the head, or a barely audible clucking noise. It is significant that these are precisely the ways in which mothers, and other persons dealing with young children, have responded from time immemorial to spontaneous activities on the part of their charges, provided the situation permitted dealing with the child on a one-to-one basis, thus permitting frequent selective responses on the part of a reinforcing agent.

As in the case of modeling, the potency of reinforcement is increased as a function of the child's emotional attachment to the person giving the reinforcement, so that once again the child's parents, friends, and intimate associates emerge, at least potentially, as the most important agents for motivating the child's behavior and development. And again as in the case of modeling, the potency of the reinforcing agent increases with the extent to which he is perceived as having high status and control over resources.

But it is where reinforcement can be combined with modeling that it can have its maximal impact. One way of exploiting this joint effect is to employ reinforcing stimuli which simultaneously serve as models of the behavior to be learned. Thus one of the most efficient procedures for developing the young child's capacity for communication is to respond to his spontaneous utterances with ordinary conversation at gradually increasing levels of complexity.

In the preceding example, the model and the reinforcer are the same person. But once a child becomes conscious of his social world, still another advantageous mix of these two strategies becomes possible. This is the technique of so-called vicarious reinforcement in which the person reinforced is not the learner (i.e., the child) but the model. Researchers have demonstrated, for example, that rewarding the model for exhibiting a particular behavior pattern increases the frequency of that behavior in a child observing the model. In addition, the reinforcing power of the model is also enhanced. In other words, if we wish to maximize the development of a particular skill or behavior in the child, we do well to reinforce not only the child himself but also the models manifesting the desired behavior, who in turn would also reinforce the child.

We see here an illustration of the special leverage provided by a cooperative effort, that is, a group process, in producing behavior change, a topic to which we shall return shortly. But first we must take note of a possible problem in the use of reinforcement as a technique for facilitating learning.

Effective reinforcement requires discrimination on the part of the reinforcer. His response must be contingent upon manifestation of the desired behavior on the part of the child. If he rewards the "wrong behavior" or if he simply provides generalized gratification unrelated to particular activities of the child, there will be no increase in the desired behavior. As we shall see, this lack of appropriately discriminating response presents a problem in the everyday world of the disadvantaged child, but also suggests possibilities for counteractive measures.

The foregoing comment calls attention to the importance of social context for the effective operation of such processes as modeling and reinforcement. We turn next to a consideration of this problem.

C. Intensive Relationships

In our discussion both of modeling and reinforcement we noted that the most potent agents for each of these processes were persons with whom the child has developed intensive and enduring relationships; typically his parents, relatives, and other persons, both children and adults, with whom he becomes closely involved on a day-to-day basis. We consider next some evidence bearing on this issue and its implications for educational practice.

There is a substantial body of data demonstrating the powerful effect of parents as models in shaping the behavior and psychological development of the child. The evidence is as eloquent in negative as in positive instances. Thus the difficulties of the disadvantaged child upon entry into school have been traced by a number of investigators to lack of stimulation, both cognitive and motivational, in his home environment. But, at the same time, other studies show that where conditions permit forming and maintaining an intensive relationship with the child, even a presumably inadequate mother can do a great deal for the development of a seriously deprived child. The most dramatic evidence on this score comes from Skeels's remarkable follow-up study of two groups of mentally retarded, institutionalized children who constituted the experimental and control groups in an experiment which Skeels had initiated thirty years earlier. When the children were three years of age, thirteen of them were placed in the care of female inmates of a state institution for the mentally retarded, with each child being assigned to a different ward.

A control troup was allowed to remain in the original, also institutional environment--a children's orphanage. During the formal experimental period, which averaged a year and a half, the experimental group showed a gain in IQ of 28 points (from 64 to 92), whereas the control group dropped 26 points. Upon completion of the experiment, it became possible to place the institutionally-mothered children for legal adoption. Thirty years later, all thirteen children in the experimental group were found to be self-supporting, all but two had completed high school, with four having one or more years of college. In the control group, all were either dead or still institutionalized.

Other studies, less dramatic but with larger samples, point to similar conclusions. For example, shifting attention from the mother to the father, a number of widely scattered investigations, both in this country and abroad, document the debilitating effects of father absence on the psychological development of children, boys in particular. In general, frequent or total absence of the father appears to contribute to low motivation for achievement, inability to defer immediate for later gratification, low self-esteem, susceptibility to group influence, and juvenile delinquency--an array of problems highly characteristic of the disadvantaged child.

Regrettably little work has been done on the specific influence on the child's behavior and development of other family members or intimate associates--such as a sibling, grandparents, close friends, or older children and adults. But there is every reason to expect that their potency as models or reinforcers will be a direct function of the intensity of the child's association and emotional involvement with them.

The foregoing discussion carries a number of provocative implications for compensatory programs. To begin with, it suggests that insuring a high level of expertise in the persons dealing directly with the child may not be as critical for furthering the child's psychological development as creating possibilities for those who are potentially the most powerful influences in the child's life, his parents, friends, and immediate associates, to realize their potential.

Putting the issue in this way makes clear that the matter is not so simple. Some level of "expertise" on the part of the "teacher" is obviously essential if the child is to learn the skills, behaviors, and motives necessary to cope successfully with his environment. It is precisely these skills, behaviors, and motives that must be exhibited in the behavior of the persons surrounding the child and be reinforced by them. And the research ordinance indicates that this is precisely what does not happen in the day-to-day world of the disadvantaged child. His parents and other intimate associates typically do not exhibit an adequately high level of the behaviors and motives which the child most needs to learn. Nor do they sufficiently often reinforce such behaviors when they are exhibited by the child or by others in his environment. It is not that the disadvantaged child receives insufficient attention from his parents and other close associates, but that this attention is not appropriately discriminating. Often it is so generalized and diffuse as to have no impact in selective reinforcement; on other occasions it is differentially responsive not to the expressions of the child's constructive capacities (e.g., exploratory behavior, vocal expressiveness, curiosity) but his passive reactions (praising him when he is quiet or inactive) or disruptive behavior (e.g., paying attention to the child principally when he is "making trouble").

This brings us to an important question. Is the problem that persons in the day-to-day environment of the disadvantaged child cannot engage in behavior appropriate to his needs because they lack the requisite ability or skill? Or are they capable of such behavior but simply do not engage in them because they are not motivated to do so?

Undoubtedly both considerations are operative to some degree, but the available evidence suggests that the second factor is much more important than the first. For example, we read in Skeels's account that the mentally-retarded "mothers" in the institution "spent a great deal of time with 'their children,' playing, talking, and training them in every way. The children received constant attention and were the recipients of gifts; they were taken on excursions and were exposed to special opportunities of all kinds." Nor were the mothers themselves without models and reinforcers, for the ward attendants also spent "a great deal of time" with the children, and the matron in charge introduced "new play materials, additional language stimulation," and other special experiences.

In other words, given motivation, opportunity, and exposure to the kinds of activities that are enjoyable and instructive for young children, parents and other close associates of children from disadvantaged backgrounds can do a great deal to further the psychological development of the child in their midst.

There is a second and even more compelling reason for actively involving parents and other persons close to the child in the compensatory program. We have noted that models are influential not only in instigating new behavior patterns but also in determining which patterns already in the child's repertoire are activated and maintained and which are allowed to become extinguished. As the most powerful models for the child, parents and other intimate associates thus become not only the most important potential agents for bringing about change in the child's behavior, but also the principal figures who maintain established patterns of activity (whether adaptive or non-adaptive), and who, insofar as they fail to expose the child to constructive experiences, prevent him from realizing his full potential. In short, it is the parents and other close companions of the child who are the primary determiners not only of what the child learns but what he fails to learn.

It follows that any appreciable, enduring improvement in the child's development can be effected only through an appreciable enduring change in the behavior of the persons intimately associated with the child on a day-to-day basis.

How can such a radical change be brought about? For answers to this question we turn to a second kind of social context in which the processes of modeling and reinforcement can thrive--namely, a structure extending beyond an intensive relationship between two people to include groups of persons sharing a common identity.

D. Group Forces

There are two ways to effect a change in the behavior of persons in the child's environment. The first, and clearly the more difficult, is to try to modify the actions of those who constitute the principal figures in the child's world as it already exists. The second is to introduce into that environment persons who can serve as appropriate models and reinforcers, and who stand some chance of being able to develop an enduring, intensive relationship with the child. The most obvious person who comes to mind in this second connection is the teacher. It is, of course, possible for a teacher or other specialist to establish a personal relationship with a child, but in a large class, such possibilities are limited, and even when they occur, there are usually other persons in the child's life who have greater weight, particularly in their collective impact.

But the teacher and her associates are not the only important figures in the child's school experience. There are also his classmates, and recent research indicates that these have far greater consequence for the child's development--intellectual, emotional, and social--than we have hitherto recognized. For example, the Coleman report revealed that how well a child did in school depended less on educational facilities or qualifications of the teacher than on the characteristics of the child's schoolmates; i.e., their abilities, interests, and aspirations. Subsequently, a further analysis of national survey data, cited in the 1967 Report of the U.S. Commission on Civil Rights, showed that the beneficial effect for a disadvantaged child of being in a class with non-disadvantaged pupils increased substantially with the proportion that such non-advantaged represent of the class as a whole. Thus those disadvantaged children who were gaining the most academically were attending classes in which the majority of pupils came from white middle class families. Moreover, these gains were substantially greater than any attributable to teacher characteristics or quality of instruction, a finding which led the authors of the report to conclude that "changes in the social class or racial composition of schools would have a greater effect on student achievement and attitude than changes in school quality." (p. 100)

This conclusion provides but one illustration of the power of a group to modify the behavior of its members. Even though each classmate taken alone presents a less accurate model of the behavior to be learned and is a far less-skilled and less-motivated instructor than the teacher, the cumulative beneficial effect of being in a classroom with able, motivated pupils is substantially greater than what can be achieved by a single teacher. This result comes about not only because other class members serve as models and reinforcers of good performance but also because the child's dependence on the group, his desire to belong, serves as an additional motivating factor to behave like the others.

But what if the others are not performing or behaving very well? The processes of modeling, reinforcement, and group pressure for conformity are no less efficient. Non-adaptive or anti-social behavior is as readily communicated as competence or constructive action. For example, contrary to the great conclusion reached by Coleman, Pettigrew (1967), in a special re-analysis of some of Coleman's data, shows that white children in predominantly Negro schools perform on the average below comparable white children in predominantly white schools; furthermore, "those white children in predominantly Negro schools with close Negro friends" scored significantly lower on tests of verbal achievement than white pupils in the same school without "close Negro friends."

Analogous effects are being found in the sphere of social behavior as well. In a study still in progress involving forty sixth grade classrooms in a large city, we find that the willingness of the rest of the class to engage in anti-social behavior (such as cheating on a test) is significantly increased by the presence of a small lower class minority (in this instance almost all white).

In other words, a strategy that relies principally on introducing into the world of the disadvantaged child middle class models from whom he can learn runs the risk that these models themselves may be adversely affected by the experience, not only in terms of lowered academic achievement but also increased anti-social behavior. In short, social contagion is a two-way street.

The consequences of this proposition turn out to be equally troublesome as we return to a consideration of the already established social environment of the disadvantaged child--his family, friends, older companions, etc. As a concrete example, let us consider a virtually untapped resource in compensatory programs, the use of older children from the neighborhood as tutors, escorts, play supervisors, etc. Although teenagers from disadvantaged backgrounds exhibit some behavior (e.g., use of words in sentences) which the deprived child needs to learn, much might also be learned that would be negative in its impact, not only in the cognitive but even more in the emotional and social spheres. Similar considerations apply to the other actual and potential models from the child's day-to-day world. The amount of assimilable, competent, or constructive behavior which they typically exhibit may be far too small, and heavily outweighed by non-constructive or even negative elements.

Fortunately, what is typical is not thereby inevitable. In the case of older children and adults, where some competence and capacity for constructive action already exist within the behavioral repertoire, it is possible to increase substantially the amount of such behavior that is actually exhibited by structuring the social situation so that it invites and demands such behavior. Contemporary research suggests that such a change can be accomplished by utilizing the motivating power of what Muzafer Sherif has called "superordinate goals."

E. Superordinate Goals

In the Robber's Cave Experiment Sherif demonstrated that it was possible to take groups of normal middle class twelve-year-old boys and, within the space of a few weeks, bring about a series of contrasting changes in their behavior. First he transformed them into hostile, destructive, anti-social gangs. Then, within a few days, they were changed into cooperative, constructive workers concerned with and ready to make sacrifices for other members of the community. Sherif's principle for bringing about this second, constructive change was involvement in what he called a superordinate goal--an overriding problem extending outside the individual himself and requiring coordinated effort for its solution. For instance, shortly after hostile and destructive activities had reached their peak, Sherif announced to the boys, who were at a camp, that there was a leak somewhere in the water line and there could be no fresh water until the leak was found and repaired. Hatreds and hostilities were forgotten as the entire camp population cooperated to solve the problem.

An example directly relevant to our concerns comes from a Head Start Program operating in an urban slum. The problem was getting children to and from the center in a "tough neighborhood." Since not enough parents were available at the needed hours, the staff turned for help to the local gang--the Golden Bombers. The resulting operation was a sight to behold as twice every day the Bombers, in "snap formation" proudly conducted their charges through heavy traffic with "complete protection." What is more, after seeing what was going on at the center, they volunteered to help by reading to the children, taking them on outings, etc.

The power of superordinate goals in mobilizing constructive group activities is also reflected in the success of Skeel's experiment. It was not only the intensive relationship between the child and his mentally retarded "mother" that is to be credited for bringing about the striking changes that occurred. As Skeel's takes pains to point out, with the appearance of a young child needing care, not only each ward, including inmates, attendants, and head matron--but the institution as a whole became involved in the enterprise (e.g., "There was considerable competition among wards to see which one would have its 'baby' walking or talking first.")

Indeed, we can now recognize that Skeel's experimental treatment involved all of the elements we have discussed as most potent for facilitating constructive behavior and development in children; that is, the modeling and reinforcement made possible by an enduring intensive relationship are enhanced by group commitment to a common superordinate goal--caring for a little child.

It is the utilization of precisely this same superordinate goal which, in our view, offers the greatest promise for the design of effective compensatory programs. In our discussion up to this point we have repeatedly been confronted with the same problem: how to "turn off" the predominantly negative and counter-productive behaviors often exhibited by the most significant persons in the life of the disadvantaged child and to evoke, in their place, constructive behaviors of which these persons are actually capable. We now see that superordinate goals have the power of effecting exactly this kind of behavior change. Specifically, involving persons actually or potentially important to the child in pursuit of a superordinate goal can have the effect of maximizing the incidence and inductive power of constructive behaviors and motives while reducing disruptive and negative influences.

But is it possible to find a concrete superordinate goal that would have appeal for persons in the child's own environment and at the same time cut across such demonstrably divisive barriers as age, class, and color? We believe that such a common, potentially-strongly-motivating concern exists. It is represented by the central focus of the entire Follow Through program. That focus is the young child of poverty, whose need for help speaks out eloquently to all who see him. In other words we are proposing that if we turn to any existing or potential segment of this child's world, be it his immediate family, his actual or possible classmates, older children or adults from his own neighborhood or from the other side of the tracks, and ask their cooperation in activities in behalf of the child, such cooperation will be given competently and conscientiously, provided that the nature of the requisite activity is clear and lies within the capability of the individual or group of whom it is requested. Moreover, the beneficial effect of such cooperative effort will be reflected not only in the child who is its target but also in behavioral and motivational changes in those who participate in the effort, the so-called advantaged no less than the disadvantaged. For though contemporary American middle class society and its children are not suffering effects of cognitive deprivation, they are by no means free from a variety of social and emotional ills, prominent among which are problems of apathy, alienation, and anti-social behavior.

III. Concrete Proposals

We have now come to the point where we can suggest concrete proposals consistent with the principles outlined above. In connection with each proposed measure, we shall also comment on implications for research design.

Proposals are conveniently described under five headings representing the major contexts in which the child lives and, consequently, with which the Follow Through Program must be concerned: A. Classroom, B. School, C. Family, D. Neighborhood, E. Larger Community. The order is not one of priority but simply of convenience for discussion.

A. The Classroom

In its customary form, the classroom contains two major sources for influencing behavior and development--the teacher and the children themselves.

1. Potentialities in the Teacher's Role. Our discussion implies a broadened conception of the teacher's role. Not only must she herself function as a motivating model, but it becomes her responsibility to seek out, organize, develop, and coordinate the activities of other appropriate models and reinforcing agents both within the classroom and outside. How this might be done will become apparent as we proceed.

There remains to note certain variations in the teacher's role which have been much talked about as beneficial to the disadvantaged child but still lack systematic evidence for their actual effectiveness. We refer here to the assertion that disadvantaged children are helped when their teacher is from a similar cultural background, same race, and, in the case of boys especially, same sex. It would be a simple matter to employ a research design in which such factors were counterbalanced so as to permit evaluation of the independent contribution of each to a variety of dependent variables including not only intellectual achievement but also motivational variables such as self-esteem, fate control, helping behavior, etc. Furthermore, as a way of gauging the relative importance of social vs. intellectual characteristics of the teacher, it would be useful to include in the design measures of the teacher's cognitive competence (e.g., verbal achievement).

We defer consideration of the role and possible effect of other adult personnel in the classroom (e.g., parent volunteers, non-professional aides), since they are treated under subsequent headings.

2. The Socio-motivational Structure of the Classroom. This is one of the most promising and least exploited areas for exploration. Two types of innovation are usefully distinguished: variations in classroom composition and in motivational structure.

a. Classroom composition. To date variations have been examined or proposed primarily in terms of such gross demographic characteristics as social class and race. Although the evidence is persuasive that the most advantageous situation for the disadvantaged child is to be in a classroom with an advantaged majority, many important questions remain unanswered. To identify but a few:

1) All of the studies to date have been retrospective. Thus there remains the possibility that the observed results are a function of pre-selection (e.g., disadvantaged pupils attending majority-advantaged classes are initially superior to their so-called matched controls in majority-disadvantaged classes.) The confounding can be clarified only in an experiment permitting random assignment of disadvantaged children to one or another setting.

2) It is not clear whether the determining variables in these grouping effects are primarily social or cognitive. In other words, is it important that the majority actually be white and middle class, or simply that the most of the children exhibit good language skills, work habits, etc. Resolution of this ambiguity would require a rather complex matching design.

3) In none of the studies to date has adequate attention been paid to differential effects associated with the sex of the child. Are boys and girls equally affected? Does it make any difference whether classes are segregated by sex? Does the sex of the majority matter? All of these questions are of practical importance in view of the special vulnerability to the effects of poverty of the Negro male child and the superior status of the female.

b. Motivational structure. Although modifications in classroom competition can be expected to make a significant contribution to the development of the disadvantaged child, they by no means represent the most powerful resources at our disposal. Indeed, their potential is realized only to the extent that they facilitate development of the motivating processes (modeling, reinforcement, group commitment, involvement in superordinate goals, etc.) which were outlined in the first section of this paper. Such development need not be left to chance. It can be directly fostered through setting up within the classroom the kinds of social and situational structures in which these processes thrive. This includes such devices as teams, group competition, organized mutual help patterns, etc., including the incorporation into such social units of different mixes of race, social class, sex, achievement level, and the like. The power of the group, including the children's group, in motivating goal directed activity in its members is well established in American social research, but the practical implications of this principle for education have thus far remained unexploited in this country. Where practical applications have been made on a broad scale, as in the Soviet Union, the effects have been impressive (see Bronfenbrenner, 1962, 1967a), but unfortunately they continue to be justified primarily on an ideological rather than an objective, empirical basis. It, therefore, remains for American educators and social scientists to reap the fruit of systematic application and evaluation of such promising innovations.

The problem, in terms of research design, is to avoid confounding among the many obviously relevant variables and manipulations. Under these circumstances, the strategy of choice is to begin with one or two variables, reserving complex interactions for later stages of experimentation. For example, one might start by examining the effectiveness of two-pupil teams of children of heterogeneous ability designated as partners or playmates and compare their progress with unpaired individuals or members of homogeneous pairs. Another possibility might focus on testing out the potency of group reinforcement by introducing into designated experimental classrooms such "customs" as group applause for correct answers, selection and honoring by classmates of members showing greatest individual progress, etc.

> The potential of motivational structures will remain unplumbed and probably seriously underestimated so long as the participants in such structures are limited to the members of the conventional classroom with its homogeneous age grouping. Full exploitation of the possibilities of motivational structures can occur only when one can move beyond the classroom into the larger contexts of school and neighborhood.

B. The School

Extending available resources to include the school as a whole permits drawing on other teachers, and staff members as well as pupils from other age groups as cooperators in the educational enterprise.

The utility of other teachers is limited but important. Probably the most promising possibility in this regard is the principle of continuity in personnel from one level or year to the next. Thus it may be especially important for the child's Head Start teacher to be able to continue on with him as he moves into kindergarten or first grade, especially during the first few weeks. Similar continuity in transition may be desirable during the first few weeks of each promotion. Since such continuity is likely to be possible for only a portion of the children in the class (some children having had another teacher the previous year) this circumstance could be exploited as a "natural experiment," although care would have to be taken to avoid confounding factors (such as a control group composed of children newly moved into the community).

An even more promising possibility which the total school offers in furthering the development of the child is the active involvement of older and, subsequently, younger children in the process. For the pre-schooler or primary-grader, an older child, particularly of the same sex, can be a very influential figure particularly if he is willing to spend time with his younger companion. Except for the occasional anachronism of a one-room school, this potential resource remains wholly unexploited in American education and, for that matter, in the process of general socialization as it usually takes place in our country. Opportunities for experimentation are therefore legion. One might begin with the practice followed in certain other countries of the world in which each preschool or primary class is placed under the "patronage" of an older class, with each little child being assigned an older "brother" or "sister" from the more advanced class. It becomes the responsibility of each older brother to get to know his younger "sib," and his family, to escort him to and from school, play with him and his friends, teach him games, and last but not least, become acquainted with his progress and problems in school, reading with and to him, helping and encouraging him to learn. In the meantime the patron class as a whole organized activities for their "ward class," including trips to athletic events, nature walks, camp-outs, museum visits, etc.

The foregoing examples illustrate how an enduring social situation can be created which simultaneously exploits all of the motivating process and social structures outlined earlier, for here the effects of modeling and reinforcement are enhanced in the context of intensive relationships, group membership, and common commitment to a superordinate goal.

An extension of this same principle points to the most important potential contribution of the school as a whole to the development of the disadvantaged child. Within the formal educational context, the school is the social unit with which the child, and those concerned for his welfare, can most readily identify. If the school as a total community becomes visibly involved in activities focussed on the disadvantaged child and his needs, if older children, school organizations, other teachers, school administrators, PTA's, if all these persons and groups in some way participate in the program and publicly support those most actively engaged in the effort, the reinforcing effect increases by geometric proportions. Conversely, if the program is confined to an isolated classroom, it is not only deprived of powerful reinforcing influences but risks the danger that the rest of the school, especially children in other classes, will perceive the "special class" in invidious terms (e.g., "the dummies") and treat its members accordingly. In this way the powerful influences of modeling, negative reinforcement, and group pressure act further to undermine the already unfavorable self-image of the disadvantaged child.

Similar considerations dictate the necessity of involving the child's family in the school's total educational effort. Before turning to this topic, we call attention to a serious problem of research design in evaluating the effect of salient innovations such as those affecting an entire school. Their public and often dramatic character invites diffusion of the experimental treatment into control group schools when these are located in the same or neighboring communities. The danger remains even when the control schools are carrying out equally dramatic alternative models, for so long as communication channels exist, there is the tendency for each group to be influenced by the other, thus decreasing the difference between them. One obvious solution for this problem is to set up experimental and control groups in similar communities that are far apart or in little contact with each other. Another less satisfactory device is to employ a sequential design with the control period preceding introduction of the treatment.

C. The Family

Today's Head Start programs typically profess strong commitment to the principle of family involvement, but in practice implementation is limited to two rather restricted forms: the first is the inclusion of some parents on the program's advisory board; the second involves meetings for parents at which staff members make presentations about some aspect of the program. Both of these measures have the effect of bypassing the most important aspect of family involvement--engaging parents and older children in new and more mutually rewarding patterns of interaction with their children.

An essential first step in bringing about such changed patterns of interaction is exposure of the parent and other family members to them. This can be done at one of two places--at the center or in the home. The basic approach is one of demonstration--showing the family the kinds of things that are done at the centers, which also happen to be things that family members can themselves do with the child--e.g., games to play, books to read, pictures to look at and talk about, etc. Particularly valuable in this connection are activities that involve and require more than one person in patterns of interaction with the child; that is, not just the teacher (i.e., mother) but also other adults and older children (i.e., father, grandma, brother, sister). A useful technique is to ask the visiting or visited family members to help in carrying out particular activities with the child. It is important that the activity not be seen as a lesson in which the child must learn something and deserves punishment for failure, but instead simply as an engaging activity in which learning is incidental to a total gratifying experience.

To facilitate the involvement of parents in such non-school-like educational activities, it is desirable to provide a library consisting not only of books but also of toys and games which require the verbal participation of adults and older children, and which can be borrowed for home use for extended periods of time.

Given the evidence for the importance of an intensive, enduring relationship for the development of the young child, it would seem desirable to encourage the formation and maintenance of such relationships and, if possible, evaluate their independent impact. The principal pitfall in this kind of research is the danger of sample bias; that is, mothers who are willing to cooperate in such an endeavor are likely to differ in many important respects from those who, for one reason or another, do not or cannot take part. An appropriate design would therefore require employing two similar but separate groups of mothers and making a special effort with one of these groups to encourage the development of intensive mother-child relationships.

Another challenging area for experimentation and research, subject only to sporadic efforts to date, is the independent contribution to the child's development of involving particular members of the family besides the mother, most notably the father, but also older siblings, grandparents, relatives, etc.

In all research on the effects of family involvement, the primary focus becomes the study of changes in patterns of interaction between family members (especially parents) and the child, and the impact of these changes on the latter's psychological development--social and emotional as well as cognitive. Even so crude a measure as the amount of time which various family members spend in direct interaction with the child might prove indicative of behavioral change. More instructive, however, in illuminating the nature of the changes taking place would be a series of standardized experimental situations, administered at intervals of several weeks or months, in which the child would be presented with various "problems" (e.g., toys, games, tasks to accomplish) in presence of members of his family. The focus of observation would be not only the behavior of the child himself but equally the reaction of family members. Do they ignore, discourage, encourage, approve, help, or take over and do it themselves? Changes over time in reaction of family members could be studied both as a dependent variable (i.e., a function of the program being conducted with the parents) and as an independent variable (a factor affecting the behavior and psychological development of the child).

In addition to presenting problems of research design, family involvement poses a difficult dilemma to professional staff. On the one hand, there is the need to expose parents and other family members to new or different ways of dealing with their children. On the other hand, this must be done in such a way as to enhance rather than lower the power and prestige of these persons in the eyes of the child. The second requirement arises from the evidence that the inductive and reinforcing capacity of a model varies directly with the model's status, command over resources, and control of the social environment. An ingenious demonstration of how this dilemma may be resolved was observed at an all-Negro Head Start and Follow Through program in the rural South. Since the local, white dominated school administration refused to have anything to do with the program, it was organized by Negro church groups under the leadership of an 86 year old minister. Several days before the official opening of the program, this man invited all the parents and teenagers to an orientation meeting--a pass-the-dish picnic in a nearby forest area (a forest which he himself had "planted" years ago with seeds obtained free from the U.S. Department of Agriculture). After the picnic, the minister offered to take the whole group through a tour of the forest. During the walk he would ask adults and teenagers alike to show him interesting plant and animal life which they observed, give names of flowers, trees, and birds, explain how plants grow, what animals feed on, etc. While drawing out much information from the group, he also added considerable material from his own experience. At the end of the walk, he turned to the group with a request: "On Sattidy we start our Head Start program. In da afternoon da children need some recreation and da teachers needs a rest. Could you folks bring da children here and tell 'em all da things you know dat dey don't know about da forest?"

The turnout on Saturday was impressive, and so was the performance of the "instant experts."

D. Neighborhood

The foregoing example also illustrates in dramatic fashion the reinforcing potential of the other people with whom the child frequently associates and identifies--his neighbors. These persons, particularly the adults, and older children who are looked up to and admired by the young, probably stand second only to parents in terms of their power to influence the child's behavior. For this reason it would be important for some Follow-Through programs to try to exploit and evaluate this potential in a systematic way. The most direct approach would be to discover from the families and neighborhoods themselves who are the popular and admired individuals and groups and then to involve them as aides in the program. It may often be the case that the activities in which such individuals or groups normally engage, indeed, the activities for which they are popular, are not those which one would want children to learn about or adopt. This fact should receive due consideration, but it should hardly be the determining factor, since the behaviors that matter are those that the model exhibits in the presence of the child. It follows that the activities in which such persons engage as aides, volunteers, etc., must be constructive in nature and reinforce other aspects of the program. They may take a variety of forms: supervising and playing games, exhibiting or teaching a hobby or skill (whittling, playing a musical instrument, magic tricks, etc.). The significant factor is that the activity be seen by the child as part of and supporting all of the things the child is doing "in school."

A second important use of neighborhood resources involves exposing the child to successful models in his own locality--persons coming from his own background who are productive members of society--skilled or semi-skilled workers, teachers, government employees, etc. Providing opportunities for such persons to associate with the children (e.g., as escorts, recreation supervisors, part-time aides, tutors, etc.), tell something about their work, and perhaps have the children visit the person at work can help provide a repertoire of possible occupational goals unknown to many children of poverty today.[3]

But how can one secure the participation of people from the neighborhood or across the tracks in spending time with young children? Experience suggests that the problem may not be so difficult as it appears. An announcement in the newspaper, on store bulletin boards, or simply by word of mouth that people are wanted after school or on weekends who like to do things with kinds and have something to offer, like a skill or hobby which children will find of interest, is likely to produce more volunteers than are needed. Of course some screening and supervision will be necessary, but a feasible program can readily be developed.

As the foregoing examples clearly indicate, many of the activities that are desirable in a Follow-Through program cannot be conducted only during school hours or solely in a school classroom. To begin with, if the program is to be effective it must influence the child's behavior outside of school as much as in school. Second, a school classroom does not lend itself to many of the kinds of informal activities involving parents, other adults, and older children which have been described above.

Accordingly, some kind of neighborhood center becomes a highly desirable feature of any comprehensive Follow-Through program. Such a center would have to be open after school, weekends, and during vacations and would have some staff members on duty at all times. The center should be represented to the community not merely as a place where children go but rather where all members of the community go in the joint interest of themselves and their children. The neighborhood center might be housed in a school building, but, if so, facilities available should include other than traditional classrooms with fixed seats.

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[3] In view of the frequency of father-absence among disadvantaged families and the predominance of female personnel in compensatory programs, the involvement of male adults and teenagers is highly desirable and deserves systematic evaluation of its contribution to children's development, especially in the case of boys.

Since a neighborhood center is likely to be diffuse and highly variable both in its conception and execution, it poses problems in terms of a research design capable of measuring its generalizable independent contribution to children's development. To control for a generalized "Hawthorne effect" it would have to be compared with an active program similar in other respects but lacking the neighborhood center component. Moreover, to permit generalization, there would have to be more than one neighborhood center in the experimental sample. The magnitude and complexity of such a research operation argues for a more modest approach in which one attempts to evaluate not the global impact of the neighborhood center as a whole but of some specific component in its program; for example, the use of teenagers as leaders of activities for younger children.

E. The Larger Community

The contribution of the total community to a Follow-Through program is analogous to that of the neighborhood but now with representatives and resources drawn from the larger context. Use can be made both of older children and adults from middle class backgrounds provided they are not the only "competent" models on the scene, for without the example and support of "his own people" the child's receptivity to what may then be seen as an alien influence is much reduced. It follows that activities by persons or in settings from outside the child's subculture must be heavily interlaced with representatives from his own world who manifestly cooperate in the total effect. This in turn implies close working relationships of mutual respect between workers from within and outside the child's own milieu. Mutual respect is essential in these relationships not merely for the purpose of maintaining a viable learning atmosphere but more importantly to further the constructive development of the child's own sense of identity and worth as a person and as a member of society.

Finally, the most important significance of the total community for the disadvantaged child lies in the fact that many of the problems he faces and the possibilities for their solution are rooted in the community as a whole and are, therefore, beyond the reach of segmental efforts at the level of the neighborhood, the school, or the home. We have in mind such problems as housing, welfare services, medical care, sanitation, police protection, community recreation programs, and the like.

Given this state of affairs, it is a sobering fact that neither in our communities nor in the nation as a whole is there a single agency that is charged with the responsibility of assessing and improving the situation of the child in his total environment. As it stands, the needs of children are parcelled out among a hopeless confusion of agencies with diverse objectives, conflicting jurisdictions, and imperfect channels of communication. The school, the health department, the churches, welfare services, youth organizations, the police, recreation programs, all of these see the children of the community at one time or another, but none concerns itself with the total pattern of life for children in the community--where, how, and with whom they spend their waking hours and what may be the impact of these experiences on the development of the child as an individual and as a member of society. An inquiry of this nature would, we believe, reveal some sobering facts which in themselves would suffice to generate concerted action. Accordingly, an important aspect of the Follow-Through program at the level of the total community would be the establishment of a Commission on Children which would have as its initial charge finding out how, where, and with whom the children in the community spend their time. The Commission should include among its members representatives of the major institutions in the community that deal with children, but should also draw in businessmen, parents from all social class levels, as well as the young themselves, teenagers from diverse segments of the community who could speak from recent experience. The Commission would be expected to report its findings and recommendations to appropriate executive bodies and to the public at large.

As a Follow-Through program encompasses ever larger concentric contexts (classroom, school, neighborhood, community), the problems of research design become increasingly more complex. One can, of course, begin at a simple dichotombus level and compare outcomes in programs including active parent involvement with those lacking this component, or the impact of volunteers solely from the child's own subculture with those from middle class. But even in these seemingly simple designs, considerable attention will need to be given to possible confounding variables (such as different types of interaction engaged in by volunteers from different backgrounds) and expert research consultation will be required.

IV. Some Major Components of a Follow-Through Program: A Summing-Up

We are now in a position to identify the major social and motivational features which, in the light of this analysis, need to be represented in an experimental Follow-Through program. In addition to more traditional and highly essential instructional aspects, such elements should include:

1. Provision for family involvement in activities of the program in school, in the neighborhood center, and in the home, with emphasis on direct interaction with the child and on the strengthening of enduring emotional ties between the child and the members of his family.

2. Under appropriate supervision, utilization of older children, both as individuals and groups, in activities with younger children both within and outside of school. Such activities might include reading to children, escorting them on outings, playing games, tutoring, sports, etc. In the course of these activities, the development of friendships between older and younger children should be encouraged.
3. Within the classroom and other children's groups, taking advantage of possibilities for heterogeneous grouping, arrangements for mutual aid, and group recognition and approval.
4. Establishing programs at the level of the school rather than the isolated classroom so as to be able to involve the entire school community--other pupils, staff members, administrators, etc., as participants and supporters of those most actively engaged in the program, especially the children themselves.
5. Bringing in persons from the child's own neighborhood, as well as other segments of the community, who, by demonstrating their competence and concern, can present the child with appropriate models to emulate.
6. In general, employing the superordinate goal of concern for young children as a means for involving the entire community in an examination of the opportunities it offers to its children and of the ways in which these opportunities can be enhanced and extended to all children and their families.

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Note: The discussant's responses to Dr. Bronfenbrenner's paper are unavailable due to transcription problems.

Seminar #2

THE TEACHER AND CLASSROOM MANAGEMENT

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THE TEACHER, TEACHER STYLE, AND CLASSROOM MANAGEMENT

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THE PROBLEM

Newspaper headlines proclaim that student achievement scores are above or below national norms. The success of one program or another, however success is defined, leads to the instant creation of a new hero; the educator who has "something going". The failure of a program, however failure is defined, results in the instant ouster of former heroes. So the controversy rages over the process and output of education.

The forms it takes are protean. The basic issues are fewer. They are often expressed in questions such as these: Is income level the cause or consequent of poor education? What is the contribution of schools to the education of children? How much of the variability in children's performance is accounted for by inputs from the school program? Which input from the school program has the most positive or negative effect upon children's achievement?

A course for school teachers? No! These are some questions representative of those appearing in recent newspaper editorials. They are also somewhat representative of those in the professional literature on what some call "compensatory" education. Throughout many current discussions about education there is a questionning of the long held assumption that educational programs *do* contribute substantially to variability in performance, that educational programs *can* contribute enough to account for a substantial portion of variability in performance, and that teachers *are* the agents who most significantly affect the performance of children in the school setting.

When what used to be known as pedagogical issues are emblazoned in newspaper headlines, the boldness of the printer's type may lure the reader into assuming an unwarranted simplicity. "Does income level cause success in school?" is cast in deceptively simple cause-effect phraseology which makes the issues it signifies nonetheless important. These happen to be only some of the issues in the current politics of "compensatory" education or "intervention" programs. They are of great interest to the public as well as to members of the professions related to the welfare and education of children. It seems obvious to many that professionals must intensify their efforts to seek better understanding of the many facets of the problem in respect to theory, research and practice. But avoiding simplistic statements of the issues is not enough. Seeking to dimensionalize the major variables is not enough. More effective programs must be developed! What cues can be taken from available research data in order to plan more effective programs?

The problem of the role of the teacher has been of interest to the research community over quite a long period of time. To say that the teacher's role is being currently reappraised is to vastly understate what has become almost a national preoccupation with educational issues. This paper is limited to examining the potential contribution of teacher style to classroom management. The first part of the paper presents some general considerations in respect to classroom management per se. The second part speculates a bit about teacher style or the teacher in the role of manager of classroom situations. Several suggestions are made for future research efforts directed toward improving educational programs for young children. The intent has been to select several areas of promise for future work rather than to provide an exhaustive review of the literature. When the terms "early childhood" or "young children" are used they refer to children of the age range typically included in nursery schools and in the primary grades (kindergarten through third grade) of the elementary school.

THE TEACHER AND CLASSROOM MANAGEMENT

"The Teacher and Classroom Management" is prosaic enough. It leads easily to images of a teacher "managing" a reading period with the ubiquitous three groups of children programmed into various patterns of reading circle, seatwork and independent activity. It leads to images of the teacher monitoring lines of children waiting...waiting at the water fountain, waiting to go to the bathroom or waiting to go out in orderly fashion to the playground. Jackson's book Life in Classrooms (47) gives an excellent description of the importance of waiting and the almost infinite variety of the kinds of waiting which teachers manage and children undergo. "The Teacher and Classroom Management" conjures images of a teacher managing an instructional situation by carefully observing children as they manipulate counting blocks, for example, before they go on to learn the formal symbolic notation for sets. As it is used here, the teacher and classroom management refers to the teacher's arrangement of time, space, materials, pupils and herself into various constellations of a learning environment. This description is borrowed from Paul Gump and is, of course, broad enough to permit discussion of almost anything that has to do with life in classrooms. If one accepts the notion that researchers ought to concern themselves with natural settings as well as with laboratory settings, then an important corollary is acceptance of the tough job of identifying and abstracting from the natural setting the relationships among variables which are powerful enough to extend our understanding of the intricate social systems which teachers set up and manage as part of their daily work. The daily work of any teacher is the juggling of time, space, materials, children and herself into patterns which go beyond the situation of the moment to eventuate in the attainment of prescribed and emerging goals.

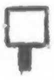
Some images of classroom life are prosaic because we may, for example, recognize them as rituals engaged in by teachers as they organize and direct the activities of children in the primary grades. Somehow, for me at least, the teacher's role as a manager of the classroom is more intrusive at the primary grade level than at the preschool level. It seems to me, too, that there is a sharp break between the professional literature describing practices in preschool programs and that describing practices in the primary grades. The dimension where the difference is the most dramatic is that of dependence upon elaborate social systems set up for maintenance of orderly group activities. The research literature concerned with teacher behavior at the preschool level also varies in emphasis from the research literature concerned with teacher behavior in the primary grades.

Here the gap between the two levels is not so great as it seems to be in the discussions of practices. The bulk of the research at the preschool level, at least that which was reported prior to 1960, was concerned with the teacher's influence upon the dependent or independent behavior of children and upon other behaviors in the general domain of personal and social development. (Sears and Dowley, 74) Much of the research on teacher behavior at the elementary school level seemed to be predominately aimed at teacher competence or teacher effectiveness. A useful review of this genre of research can be found in the 1964 review edited by Biddle and Ellena (10). Part of the body of literature dealing with teacher effectiveness has taken the approach of describing the creation of social systems within learning environments which systematically affect the individual, small group and total group behavior of children. Anderson, Bales, Flanders, Medley and

Mitzel, Gump and others have taken this approach. Most of the other research on teacher effectiveness, however, has been fragmented and lacking in theoretical underpinnings of any kind. The simple paradigms used in much of the research on teacher effectiveness have schematized measurement and/or prediction according to a variety of narrowly defined criterion variables (30). This brief look at the difference between research on teacher behavior at the preschool and the primary school levels is not meant to disparage the importance of teacher effectiveness. It is meant primarily to highlight important differences in research emphases and in description of recommended programs. Almost any textbook on early childhood describes this as an epoch of development where, in theoretical terms at least, more similarity than dissimilarity in educational programs might be supposed to exist. Many institutions of higher education prepare teachers especially for work with young children. In some states a special teaching certificate is issued for this level. Historically, however, the goals of preschool education have differed from those of education in the primary grades. Even programs such as Follow Through seem to focus on continuing to provide the special services of Head Start as an addition to the regular primary program.

Do such differences in program actually hold over large numbers of preschool and primary grade programs? Or are they fleeting impressions which arise from the mythology of our profession? Do preschool teachers today perceive their role differently than do teachers of the primary grades? What are the major areas of difference in role perception? One direction for research on the teacher and classroom management that I see is description and analysis of a wide variety of "natural settings" or classrooms at these two levels to see where they are similar and where they differ. Another is to study differences in perception of role on the part of preschool teachers and primary grade teachers. With the advent of Head Start and with the advent of Titles I and III of E.S.E.A. it may well be that events are underway which have significantly changed both preschool and primary grade programs. It may also be that a sharp difference between programs at these levels still exists. Perhaps special recent "intervention" efforts have not had a substantial impact upon either the middle class preschool prototype or the traditional primary grade classroom. At this point, we don't know. We need to find ways to describe what actually exists.

Part of the difficulty researchers have faced in their quest for workable measures to appraise the impact of the teacher's management of the classroom upon children has been the confounding factor of *a priori* judgements of the nature of effectiveness. Such judgements do not free the observer to see and to record what is actually going on. Most professionals who are deeply committed to the welfare of children observe within the limits of their educational predilections. For example...It is *good* to plan activities which enhance the self concept. It is *bad* to reprimand a child in front of other children. It is *good* to ask questions which encourage the child to think his own way through the cognitive mazeway of a difficult problem. It is *bad* to require young children to sit and listen to a story if they prefer to play with blocks. Each of us has a filing system of the "goods" and the "bads" which predisposes us to judge rather than to see. The "goods" and the "bads" which we retrieve from our filing system at any given point of time may be excellent from the viewpoint either of theory, of research, or of practice. But they also can be powerful deterrents to objective description of what actually is happening in the situation being observed. Instead of observing in order to appraise, we need first to find ways to observe in order to describe. When description comes before appraisal, and is a procedure distinct from appraisal, it permits a common and relatively more objective basis from which appraisal, or any other research objective, may proceed. Some very early attempts along this line were made in 1928 by Puckett. As reported by Medley and Mitzel (60), he devised a series of symbols to represent various teacher and pupil behaviors. Several illustrations of his symbols are given below.

.	Pupil raised hand.
⊙	Pupil raised hand and was called upon by teacher.
⊡	Pupil called on when he did not have hand raised.
	Pupil called on when he did not have hand raised; made a single word response.

Apparently Puckett worked out other symbols; those given here are illustrative only. A system where each symbol represents a particular behavior would be quite easy to use in recording behavior once one learned the notation. Such a system is particularly elegant because modifications of each basic symbol form can differentiate either the situation in which the behavior occurred or the nature of the behavior. At this point one might very well state that while few would object to the need for objective descriptions of classroom life many would question the feasibility of the development of a notational system for recording the myriad actions and transactions which normally occur in any time-slice of classroom behavior. Such objection has merit. Undoubtedly it is impossible to get an absolute isomorphism between any notational system and any given "live" classroom situation. But it is very likely that an adequate sampling of behaviors can be selected for inclusion in a notational system such as that being suggested here. It should be possible to develop a system representing the basic elements of teacher behavior, children's behavior, time, space, and materials as they are manifested in various patterns or combinations of interaction. Many observation checklists have been used. Pooling these items and selecting those considered the most basic behaviors, or classes of behavior, would be an important first step. At first thought the job seems horrendous. But there are some data at hand which are the result of sporadic research efforts throughout the past fifty years or so. What is needed now is a workable and objective way to record what actually goes on in classrooms. Once these data were available, researchers could use them for whatever specific research goals they had in mind. Dancers use the system of Labanotation to record the elements of a dance in sequence so the dance can be replicated and also, as I understand, so that it may be copyrighted. We may not wish to record all teaching-learning sequences for copyright purposes but it would advance research greatly if some professional group could be funded to develop a standard system of notation which would be available for use by the entire research community.

A recurring theme throughout the literature on teachers as managers of the institutional settings for learning which our society provides is the theme of the adaptability or flexibility of teacher behavior. Flexibility seems to be used

2

to indicate the ease and skill with which the teacher can shift managerial gears from one activity or situation to another. It also refers to the actual change in the teacher's behavior as the context for behavior changes in the rather fluid patterns of interaction which ordinarily exist within the limits of the prescribed rules and routines of classroom life. At times it is used also to indicate the teacher's capability for dealing with the unexpected, the unusual events which somehow erupt through the surface of daily classroom life to demand an immediate response. Flexibility may also be used to refer to other aspects of teacher behavior not identified here. It is difficult often to determine which meaning of flexibility, or aspect of it, is intended. Much of the literature on this particular dimension of teacher behavior contains more discursive discussion of teaching methods which purportedly contribute to flexibility than reports of research projects designed to examine systematically the nature of flexibility and its contribution to general patterns of teacher behavior.

Going from the abstract to real classroom situations, one may ask: How does a given teacher behave when she is guiding an activity where several young children are playing a card sorting game where the objective, at least that of the teacher, is the children's discovery of the principles involved in "winning". Let's say that if one guesses or selects "blue, blue, red"-- "blue, blue, red" wins. If one is able to state the principle "blue, blue, red always wins" one is rewarded by the teacher's approval.

In this situation both the teacher's verbal and nonverbal behavior may be important. Considering only verbal behavior, at this point, is the teacher directive (restrictive of pupil response) or is she relatively indirect permitting, indeed encouraging, the children to respond freely in order to discover and to state the principle of the game? Flanders and his associates have studied the impact of the teacher's verbal behavior upon the student's behavior by extensive use of interaction analysis. Flanders' achievement to date in refining this method of studying verbal behavior and in using it to train teachers to evaluate their own behavior is compelling. In analyzing the data on any given teacher's behavior, Flanders (25) has defined the flexibility of a teacher's verbal behavior by using the ratio of indirect to direct influence in any one activity and comparing it with the corresponding ratio in other activities. This definition of flexibility is related, and correctly so, to the conceptual framework which Flanders and his associates used to derive interaction analysis as a procedure for describing and categorizing only the verbal behavior of teachers. However, one may define flexibility as a construct, the problem immediately arises of the relationship of flexible behavior to context. To what degree is behavior, flexible or not, dependent upon requirements of the situation, the context, the setting? Gump, among others, points out that activity settings are coercive of interactional patterns. Research carried out on camp settings as well as on the classroom indicated that the context, to use Gump's phrase, "shapes the behavior of adult managers."

Going to the primary level classroom again for illustrative purposes, one certainly expects teachers to behave differently when they give a spelling test, for example, from when they are informally moving about the room chatting with youngsters who are engaged in "free time" or "independent" or "learning center" activities. The labels for such activities vary but they usually refer to a period of time when children may select from a variety of activities the one in which they wish to engage themselves. At one extreme of this continuum of activity settings is the test situation where all children are required to do the same thing at the same time; where the emphasis is on order, attentiveness and being quiet; where the goal clearly requires an accurate response to specific stimuli; and where diversions from the task at hand are not readily tolerated.

Some interesting questions arise here. Does the teacher feel impelled to keep order, to maintain quiet, and to be on guard against frivolous interruptions because of her perception of the requirements of the situation? To what degree does the activity setting actually coerce both the teacher and the students to respond in certain ways? With the same teachers and children is it possible that as much could be accomplished in learning to spell words in settings which differ from that described above? This comes close to the classic chicken-egg question. But the work of Barker, Gump, Hughes and others does suggest that the activity setting itself imposes requirements which elicit identifiably different patterns of behavior. To go back to classroom illustrations. At the other end of the continuum of settings, during "free time" the children are expected to select what they wish to do; different children are expected to be doing different things; conversation is permitted; the teacher intrudes only to keep things going smoothly and to make sure that reasonable care is taken of materials and equipment. The ethic of this situation is not pencils poised in unison. It is that of exercising options and pursuing one's own interests. Many other classroom situations or activity settings lie between the polarities just described. The issue goes beyond that of determining the role of flexibility in the teacher's management of the classroom to issues concerned with curriculum because so often our goals are those of mastery of content, and at the same time, development of adequate social skills. We need therefore to determine some priorities of action for examining the part which teacher flexibility plays in classroom management. In pursuing this we might wish to take another, and perhaps a longer look, at the activity settings teachers design for young children. Study of these related areas can make important contributions to very practical matters of classroom organization and curriculum. While an extensive discussion of curriculum is not the objective at hand it is impossible to consider the teacher as a manager of the classroom without tracing the effects of teacher management upon curriculum. If the activity setting itself does impose certain behavioral patterns upon both the teacher and the children then the practical curriculum planner must not only consider the substantive material and social skills she wishes to teach directly but also the behavior which emerges from the activity as an indirect or unplanned for result.

If our objectives for children do include the careful nurture of behavior such as that of using language playfully as a conversational art or making wise choices or planning a course of action with another child or examining goals to see their relationship to our own behavior in the classroom... then we must analyze curriculum for young children not only from the viewpoint of cognitive development, not only from the viewpoint of direct development of social skills, but also from the viewpoint of what kinds of children's behavior are required by the activity settings we use. Some of these requirements may fit in well with stated objectives; some requirements may be undoing our explicit objectives. It would be beneficial to analyze systematically and to compare programs in order to describe the patterns of activity settings used; the explicit or public objectives such settings were designed to reach; the behaviors which result from the requirements of the settings and which have not been planned for or perhaps even recognized by the teacher.

The teacher's recognition that her behavior interacts with that of individual children and with groups to set off delicate yet very strong spider-web patterns of social transaction is a vital part of her personal and professional self-renewal. Flanders (26) comments that as a group teachers are virtually isolated from information about their own behavior. Almost all teacher preparation programs include courses in psychology, educational psychology and sociology. Teachers in the schools attend occasional mass meetings most of which seem to be designed to inspire them to go forthwith and transform themselves into paragons. With the exception of a few exploratory projects, teachers have not been provided with a systematic means for feedback from the systems they create and manage. The Stanford group and others have used micro-teaching; Flanders and his associates have used interaction analysis and Kersch and others have used simulation techniques. While simulation techniques are not as directly related to feedback as micro-teaching and inter-action analysis, each of these approaches and others warrant further study and more widespread systematic use.

Teachers do pause for a moment after a hectic day to reflect upon a mental ledger of that day's successes and failures. Teachers do watch for the overt behavioral signs children use when they are fatigued, bored, excited or uncertain. Teachers do get evaluated formally by supervisors and informally by parents. All of these result in fleeting, incidental cues which may serve a variety of useful purposes. They cannot take the place of an organized set of procedures for getting constant feedback, information which is processed by the teacher and then acted upon in planning next steps. The Educational Professions Development Act and many other programs testify to the concern throughout the teaching profession that we find better ways both to prepare teachers and to sustain professional growth after they are employed. Increasing the professional skill of huge numbers of teachers is a task of awesome magnitude and complexity. Considering here only what should be done on the in-service level, we ought to test the hypothesis that sustained and systematic use of procedures designed to yield feedback will result in more effective teacher performance which will in turn improve the cognitive and social performance of youngsters.

An investment in setting up systematic feedback mechanisms in the classroom may very well result in the elusive pay-off all "intervention" programs have been designed to achieve.

These general comments about various aspects of classroom management can be drawn together in the following suggestions:

a) Some comparative descriptive studies are needed to determine areas of similarity and difference between preschool and primary grade programs and the role perceptions of teachers at these levels.

Continuity from one level to another is not the only issue here. Sharply different goals may result in different activity settings which impact upon children in various ways. Where teachers of both levels plan together, desirable changes in goals and activities may occur at both levels. It is evident, however, that objective data are needed about actual operational differences.

b) A standard system of notation for recording behavior in classrooms would be useful to many different research programs. Perhaps a professional organization might be lured into developing such a system.

c) Intricate relationships among a number of factors seem to underlie the environments which teachers create and the systems within the environments which they manage. We need more information about the degree to which the behavior of the teacher as an adult manager is coerced by activity settings. How does the construct of teacher flexibility relate to the construct of classroom ecology? We may wish to examine not only the behaviors which instructional goals are explicitly meant to achieve but also the behaviors which are not always planned for, those which arise from the requirements of the activity settings teachers provide.

d) The major part of in-service education for teachers of young children should be designed to teach them practical procedures for getting systematic feedback about their own behavior. The particular technique selected is not so important as the general acceptance for its need. Some portion of released time should be given to the systematic self-appraisal of teacher behavior in the classroom. It is suggested that training in using a self-appraisal technique, time in which to use the techniques selected, and the general expectation on the part of everyone concerned that such appraisal will be carried out as a regular part of the teacher's job will result in the pay-off of improved pupil performance.

TEACHER STYLE

Teacher style is used here to refer to the way in which the teacher plays the role of classroom manager. There are identifiable differences among teachers in the behaviors which predominate as they perform in the classroom. The teacher as an actor of a role is not a new concept. Teacher style does not refer only to the skill of the performance but also to the form of acting characteristic of any given teacher. Just as there are differences among teachers in the behaviors they select to shape their playing of the role so are there similarities. Clusters of behaviors can be identified according to various dimensions. There is enough similarity in these more frequently occuring behaviors on the part of any one teacher to permit identification with labels such as the punitive or the accepting teacher, the direct or the indirect teacher, the challenging or the dull teacher, and so on. The labels used vary widely, as one would expect, and so do the dimensions of behavior which have been of particular interest to any given group of researchers. Teacher style is examined below in respect to:

a) its differential impact on individual children and small groups

b) its relationship to the culturally defined sex role of the child

c) possible effects upon cognitive development

d) possible effects upon social development

The large majority of studies concerned with relating teacher style to any type of student performance have used group measures of performance. Before faulting this approach, one must recall the fact that teachers are not permitted to be tutors in American public schools. They are given responsibility for teaching groups rather than individual children. On the other hand, within the total group situation many teachers do work with individual children or with small groups of children whose interests, skills or needs may be similar. In effect, as many teachers manage the classroom they point their efforts at times toward individuals or small groups. Most small groups, however, are formed on the basis of achievement. It is reasonable to assume on this basis alone, disregarding the literature which uses learning theory as the rationale for individualizing instruction, that research which focuses only on mean achievement may obscure potentially significant changes in the performance of individuals or small groups. Recent research efforts which have examined the differential effects of teacher style upon individuals include a study reported by Sears (73). Using fifth and sixth grade subjects to study the effects of classroom conditions upon achievement motivation and work output, Sears indicated that teacher behavior had differing effects upon children of different mental abilities and sex. The way in which the teacher rewarded the subjects seemed to be related to achievement. Much of the research literature on creativity also suggests that there may be a relationship between teacher style and measures of creativity on the part of individual children within the total group. The data are not clear, however, as to how teacher styles do relate to the performance of individuals or as to which combinations of teacher and child seem most productive.

What has been suggested is not new or startling by any means. Many have vigorously supported the idea that the day is long past for comparing the mean performance of one group with the mean performance of another. Published research still suffers, however, from the "measure of central tendency syndrone." Because it is difficult to find published research designed to examine more complex interactions, it may be useful to examine a few of the assumptions underlying much of the current work on young children. One assumption, it seems to me, is that an important research goal is the analysis of what are essentially "leveling" effects. Another assumption is that groups of disadvantaged youngsters do have such similar learning styles, life styles if you will, that they all literally fit neatly the stereotype of "the disadvantaged child" which we have so conscientiously and laboriously constructed. Another assumption is that the degree of match between teacher style and individual children does not exist or is not important enough to justify the use of more sophisticated research designs. Still another assumption is that we can afford to search for the elusive "best" method of instruction for all disadvantaged children; that we can afford to continue to compare pairs of methods until somehow the "real winner" mercifully emerges from a somehow definitive statistical analysis. Minuchin's (64) study of curiosity is a promising effort among recent studies to examine individual and small group behavior systematically and to develop instrumentation in an area where large group tests are inappropriate.

While it is not reasonable to expect all studies of teacher style to focus upon change in individual children, it is feasible to suggest that small samples might be studied to find linkages between teacher style and the performance of individual young children. It also seems feasible to attempt to link to teacher style the work output of various subpopulations or small groups. Cannot such subpopulations be selected according to combinations of variables such as sex, curiosity, language ability, creativity, motivation, etc.? Simple "either-or" research paradigms are clearly inadequate if we perceive our research goal to be an analysis of complex interactions between teacher style and individual children or small groups.

The development of sex role as well as the power of sex as a variable in differentiating both motivation and achievement on the part of children has been widely discussed in the psychological literature. There is relatively little direct evidence to bear, however, upon the question of the nature of the relationship between teacher style and development of sex role. Sex as a factor accounting for variability in motivation and achievement has been studied somewhat more extensively. In respect to teacher style and sex role, great emphasis has been placed upon the availability of models and the potency of such models. Relatively little emphasis has been given, however, to differences in teacher style as a variable of importance. Observation of natural settings does support the well known literature on doll play, for example, in leading one to question the appropriateness of materials and activities in classrooms which seem to reinforce aspects of the feminine rather than the masculine role. Information about the relationship between curriculum and sex role is, however, still largely speculative at this point. Sears' (73) work which was mentioned earlier in the section on the fit between teacher style and individual children suggested that high achievement in boys seemed to be related to the teacher's modes of expressing reinforcement of desirable, goal-directed behavior.

In the Nebraska Symposium on Motivation, 1967, Katz (50) reported on how Negro children actually administered reinforcements of criticism and praise to themselves while they were doing simple tasks under what they assumed were private conditions. He found that low achieving boys were more likely than relatively high achieving boys to express disapproval of their own task performance even when the quality of performance was the same for both groups. Whether such expressed disapproval reflects systematic internalization of previous failure or disappointment with oneself and exactly how such mechanisms are set into operation is unclear. Katz used a questionnaire which elicited information about parental reactions to effort, and success and failure from the Negro boys and girls in his study. Reports of low parental interest, low acceptance and high punitiveness were related on the part of boys, but not girls, to low school achievement and expressed self devaluation in the task setting mentioned earlier. Results such as these point to the strengths of the parental role, and as Bronfenbrenner suggested in an earlier paper in this Head Start Research Seminar series, there is an urgent need for involving parents in the total school enterprise. This leaves unanswered, however, in any direct sense the interplay between teacher style and the low achieving Negro boy's lack of motivation to achieve. Rosenthal and Jacobsen (71) presented interesting evidence about the apparent effects of teacher expectation upon achievement. In what ways do teachers in inner-city schools act as agents to reinforce the child's generalized disappointment with self? Would it not be useful in developing programs for such youngsters to emphasize the elements of teacher style which relate most directly to rerouting an ego system which has been under constant assault? What are the elements of teacher style which would serve in this rehabilitative cause? These questions signify the dilemma in which teachers find themselves where causation for a propensity toward failure seems to be clear. The instrumentalities for intervening are so very much less clear. If we would identify a number of children who had somehow broken through this cycle at some level during their school careers and analyze their interactions with teachers we may glean some understanding of specific components in teacher style which do and do not appreciably operate in collusion with failure and self disparagement. Another significant issue in this important area of research is that of how differences in teacher style among women teachers are related to different levels of motivation and achievement. Even though the evidence on cross-sex preference in reinforcement agents is fairly clear, especially at the preschool level, it is unlikely that we can readily change the existing situation where the majority of teachers are women. Bringing in male models undoubtedly is very useful but if a female model is the important person in the school situation over a period of time, we must also consider teaching female teachers the means which they can use to rescue children from self assault and battery on the ego.

Teacher style has been posited as the way in which the teacher plays the role of classroom manager. The use of a term such as style indicates that there are enough common elements among teachers as they perform to permit us for the moment to disregard idiosyncratic elements unique to each individual teacher. What is the relationship between teacher style and cognitive development? This is a very broad question, of course, and has been extensively studied. The particular aspect presented here focuses only upon what may be viewed as the contribution of pedagogy to cognitive development. In a 1965 review of the literature on classroom learning, Baldwin (6) remarked on the startling lack of research studies on the content of teacher-child interaction; the way teachers actually present new material, encourage the search for an underlying principle, answer questions or summarize material. The well-known work of Hess and Shipman (45) on the quality of the verbal instructions given by mothers of middle class and lower class children is of interest in this context. Among other things, the middle class mothers were more skillful as instructors.

What are the elements in teacher style which make for better instruction in each unit of teacher-child interaction at various junctures in the learning process? Much of the research on the teaching of arithmetic which was done prior to 1950 emphasized the specific content of teacher-child interaction units in respect to more effective ways to introduce mathematical concepts, ways to provide practice, and ways to use manipulative materials for the greatest impact on learning. It is instructive to reread some of this literature because of the care with which these researchers sought to relate the practices of teachers to the learning of children by examining elements of the teacher's teaching behavior upon children's acquisition of content.

Should teacher style differ during situations where ideas are first being introduced from situations where mastery of content may be expected? Is more or less verbal output on the teacher's part called for in varying situations? What should the rhythm of instruction be in the use of manipulative and schematic materials? Are systematic procedures on the part of the teacher more important than warm accepting behavior at certain junctures of the learning process? Surely the characteristic response of the teachers to questions such as these as they actually perform in the classroom are important both to identifiable differences in teacher style and to impact on cognitive development. An intriguing question in this regard is how potent the teacher's teaching behavior is as a model for children in their cognitive development. The studies of Bandura (7) and others demonstrate the ease with which young children imitate entire repertoires of behavior under varying conditions. Teachers are fond of recounting how children who play school imitate even the subtlest gestures of the teacher with finesse and aplomb. Can it be that children also indirectly learn from their teachers characteristic ways of defining the dimensions of a problem, of asking questions or of relating one fact to another? The degree of skill with which teachers themselves deal with subject matter and the clarity with which they communicate this skill to children may be the basis for very strong cognitive modeling in classroom situations. There is a general agreement that the skillful teacher is less intrusive and talks less thus permitting the children to engage themselves actively in learning. When teachers are instructing, however, when they are "thinking out loud," the potential benefit for eager listeners and imitators may be very great indeed.

One of the functions which the teacher performs as a manager is that of control. The style in which this function is performed has been associated most often with negative and positive effects upon the social development of children. It is primarily in the situations where the adult manager exercises control that she may be perceived by children to be punitive or nonpunitive. Kounin and Gump (54) showed that there was a higher incidence of aggression and hostility among children whose teachers were rated as punitive than among children whose teachers were rated as nonpunitive. Several theoretical approaches can be used to account adequately for this relationship between the punitiveness of teachers and that of the children under their supervision. However this finding is accounted for theoretically, it does provide an interesting perspective for viewing discernible trends in the literature for a need to "get tough" with deprived children because this is the style of control which they understand, the one to which they are presumably accustomed, and the style which they respect and value. Another issue extends beyond social development to inquire into the differential achievement of children as the style with which the control function is performed is varied. Evidence to date from various sources both in social psychology and in teacher effectiveness research seems to indicate, putting aside personal preferences for humane management, that an indirect, nonpunitive and accepting teacher style is closely related both to similar behavior within social systems in the classroom and, in general, to improved student performance. In the recently reported studies by Harvey, et al (42, 43) a relationship was established between attitudes or beliefs of teachers, and pupil behavior. Teachers were designated as concrete or abstract on the basis of their belief systems. Those who were designated as abstract expressed greater warmth toward children, were more flexible in meeting their needs, invoked rules less frequently, and were more ingenious in using play and teaching materials. They were, in brief, more resourceful, less dictatorial and less punitive than those designated as concrete. There were significant negative relationships between dictatorialness and punitiveness, on the one hand, and student cooperation, involvement, achievement and helpfulness on the other. Harvey and his colleagues recognize that the demonstration of such a relationship does not specify the nature of causality. Any number of interactions among teacher style, children's behavior and learning climate could be operative in the classroom. A striking finding of the Harvey study was the very small percentage of the teachers involved in the total sample who could be designated as abstract teachers. As more data become available to enable us to "map the territory" of the classroom, we can then sketch in the salient interactions among variables. At present we can suggest that teacher style is important but not necessarily related in a linear fashion to pupil output; we can suggest further that teacher style can consciously be modified and used by teachers to achieve socially desirable ends.

This discussion on teacher style can be summarized briefly in the following series of suggestions.

a) Small samples of young children can be selected for intensive study, over a period of time, of the interacting effects of teacher style and what may be called pupil style. Both teacher style and pupil style deserve further theoretical elaboration but one purpose of such studies would be to yield practical information useful to teachers of young children.

b) We need to intensify examination of the effects of materials and activities upon the development of sex role and motivation in young children. Because research evidence has drawn a picture of self-disparagement as the dynamism in the ego system of deprived Negro boys, it may be useful to try to identify elements in teacher style among women which are most likely to intervene in this process of self-disparagement. This suggestion is made recognizing the fact that the most powerful intervention very well may be the use of successful men and older boys and models. It is nevertheless important to do the best we can now with the existing situation wherein female teachers predominate in programs for young children. Identifying the female teacher styles which are least harmful to deprived Negro boys may be a useful line of inquiry to pursue.

c) In respect to cognitive development, the suggestion was made that the nature and content of instructional episodes is likely to have a substantial direct effect upon the child's cognitive development. In other words young children may preempt the teacher's style as an instructor for modeling their own cognitive behavior.

d) A considerable literature exists in social development to suggest that teacher style has some form of reciprocal effect upon children's behavior. Recurring emphases on the relationship on nonpunitiveness, acceptance, and indirect control to improved student performance suggest that more attention ought to be given now to enable teachers to develop and use such styles with skill.

RESPONSES

Ira Gordon
University of Florida

First I should thank Professor Rashid for her paper because those of us on the panel received it a few days ago and we are one up on the rest of the participants in this seminar. The one problem that I had with the paper is that it has so many ideas. It was quite a stimulating thing to read but I had trouble figuring out to what should I address my responses. What you are going to get now is a running "stream of consciousness" response to the paper. Let me first start off with the comment about the shock-break between preschool and primary school definitions of teacher role in which Dr. Rashid said that at the preschool level there has been emphasis upon research on the modification of social behavior. At the elementary school level research has been done on teacher effectiveness. I think this is a very good statement of things as they were. I hope it is not indicative of things as they will be. I think that any such split between preschool and primary is no longer viable. I think, too, that we have to change our whole notions about even talking about preschool as though it were pre anything at all. Some very interesting work is going on in looking at five-year olds in terms of classroom observation and the role of the teacher. And this is work at Stanford originating again with Pauline Sears who has been extremely productive and it is being followed through to some degree by Dr. Katz who is now at the University of Illinois. They have done what is called point-time samples of pupil behavior in kindergarten. A point-time sample simply means looking at each youngster long enough to categorize his behavior along a whole set of dimensions: what is he doing at the moment I look at him and then sampling the next child in turn. They now have some data which has not yet been released in the journals about the effects of computer assisted instruction on the actual social and cognitive behavior of first grade youngsters. Such data would be very easily adaptable to younger children than first grade. Let me give you some of their categories for looking at kindergartners. This was reported in Childhood Education in February 1968. The article was written mostly by Lillian Katz called "Observing Behavior in Kindergarten and Preschool Classes." It relates also very much to the point we made about looking at kids as well as teachers. You look at each child to see whether he is strongly intent on work, intent on individual work, or attentive to the teacher. You look at social work which is work that is cooperative, attentive to another child. There is a category of intent on non-teacher prescribed work. I guess the analogy in the upper grades would be doing the French homework in the English class. Disinterest and disruption is a category. Categories of the cognitive domain include seeking information, offering information, curiosity and experimentation, following a cognitive plan, and engaging in problem solving. There are other areas such as inter-personal behavior between teacher and child. One of the things this does though is to cover both domains, affective and cognitive. One of the weaknesses in many other of our systems is that it addresses itself to only one domain. Now we can begin to use this kind of instrument across preschool and primary and get some kinds of leads on Dr. Rashid's question as to whether the division between preschool and primary programs is staying with us or disappearing. And if I can put in a plug for Florida, we are currently, and Dr. Robert Soar is taking the leadership in this, trying to develop a variety of systematic approaches one of which we have called from our World War II antiaircraft days, "flac." We don't know whether we are going to get flac on it or give flac, but we're calling it that. "FLAC" stands for Florida Affective Categories. We are trying to cut across cognitive and affective behavior but we are applying only a little bit of theory, which may be dangerous.

In terms of pupil characteristics we have raised the question: "What might we see in a five-year old's behavior that would be reflective in this case of a child being, in terms of Piaget, at an egocentric stage in terms of his language and behavior?" So that we have items on this, if he talks to himself while he is playing rather than talking to another child, or in terms of the category we've labeled simply "me too," which is the phenomenon of sharing: the kid gets up and says "I went on a pony ride Sunday" and everybody says "Me too" you know. We are trying to get at how personalized is the child's responses, how self-centered is he. Again we don't know whether it's going to work. We will be trying it out in a number of Follow Through places. The point I think that needs to be made is that we do have to design systems especially for the age levels of the youngsters with which we are dealing. Present systems must be reworked, in effect, to be usable in keeping with pupil characteristics and more accurate descriptions of classrooms as they are in the lower grades.

I think the point that was made that the measurement of teacher competence has been basically fragmented and atheoretical is essentially true. But not completely true. Flanders' work is related to a theory of social psychology and certainly the work of Paul Gump relates clearly to a school if not a theory which talks about the ecology of behavior. And I would refer you to the work of Kounin in looking at Detroit classrooms as being very systematic within a particular theoretical view, an ecological view that says in effect that setting determines behavior. Such a view holds that you don't have to worry about the personality of the teacher, you don't have to worry about the personality of the individual child, if you can describe the setting, the setting itself will tell what kind of behavior is allowed and what kind of behavior will come forth.

In terms of directions for research we do need, as Dr. Rashid said in our discussion this morning, more "description and analysis of a wide variety of natural settings of classrooms at the preschool and primary level to see whether they are similar or different." This is absolutely vital. But the questions I would raise are: For what dimensions will we look? What will be our criteria for selecting, if you will, what items to put on the observation sheet and what items to omit? Because anybody who thinks you can go in and just look at a classroom and capture everything that is going on in some type of behavior analysis writeup, is kidding himself. Eventually you have to dimensionalize. You do have to categorize. You can do it after the fact or before the fact but you surely have to do it. Otherwise you would be like the neophyte the first time he looks through the microscope; he doesn't see anything there. You've got to come to it with some notions. And here, the best safeguard is coming to it with a variety of teams of observers, representing varieties of viewpoints, looking at the same room. And this is one way to handle bias rather than the single observer with his own biases looking.

But this thing raises the question of what common training. Dr. Rashid mentioned the need for a common language. In addition to a common language, what common training are we going to provide for observers? On the old Oscar the first item was "teacher yells," the second item was "teacher uses sarcasm." Well, everybody knows what yelling is, and most everybody might agree on what sarcasm is. I used this scale in Florida on elementary and secondary interns in a variety of schools, urban and rural, etc. The same scale was used on student teachers in Minneapolis; Donald Medley had used it in New York City on first-year teachers. And when you looked at the data, the Florida teachers don't yell or don't use sarcasm. In New York City there was a high degree of yelling and sarcasm. The question we have to ask is: How much of this is a function of the region? In other words, is it true that more yelling and sarcasm is going on in the New York classroom or is this a function of the way I trained my observers and the way others trained their observers. Unfortunately since this was several years ago, we will never know. But we need to develop common training as well as common language. When an observer in California says this was an "X" and an observer in New York says this was an "X" we will have some guarantee of a common meaning of an "X", not simply in somebody's writeup but in actuality.

If we look at the filing systems notion that Dr. Rashid gave of "goods" and "bads", I don't think this is necessarily bad at all. We have our goods and bads; let's be honest about it. The thing we need in an observation system though is to list both the goods and bads of the system.

I'm sort of a self-concept theorist, whatever that means today. I'm very interested in teachers doing things that enhance and develop a youngster's self-concept. Don't ask me to get very specific about what it is that enhances somebody's self-concept. Let's say then that I think the teachers should call the child by name. This is a nice good simple device you know. Here's a kid who comes to school and doesn't know his name. The way to enhance his self identity is to call him by name. So I would put "teacher calls the kid by name" on my observation report. Somebody may think that's a very simple and stupid kind of thing to put on an observation report. He says the way to enhance the kid's self-concept is through praise for specific acts. So, okay, we'll have something on there that says when kid did "A", teacher said "Good boy" you know, and stood up and cheered and did whatever came to her mind for positive reinforcement. The point is that both of these ought to be on the system. Then we can see which of these relates to outcomes. Let's not prejudge what relates to outcomes; this is where I think we can learn heavily from Medley who makes no prejudgements. Prejudgements can be controlled as long as we list the possible presence or absence of a number of these kinds of things, so long as the observer records these; as long as we can relate them to specified pupil outcomes....Of course the question of how one measures self-concept comes up which is another problem. Measurement questions aside we should include items such as self-concept. We need to pool and select, as Dr. Rashid said, to bring our biases with us and have them represented in these systems. I would think that the best way of doing this is not to include them all on one observation sheet, but to have different systems of observation. Simultaneous recording by several observers is preferable to having one observer managing too many diverse items in one system.

I'd like to get back to the point on Flanders again. I made it in our earlier discussion this morning. The problem here is that many of the systems were developed without reference to subject matter. This seems to me to emphasize the need to recognize what often has been ignored in classroom observation systems which, by and large, have been developed by educational psychologists. And that is the curriculum in its old meaning of subject matter. If the settings, as Barker, Kounin, Gump and others point out, govern much behavior, then the behavior setting must be specified. Let me give you an example of some of the work we are doing down in St. Petersburg, Florida in which we are simply using the point-time sampling that we borrowed from Sears. We were looking at different behavior settings to see what the differential responses of boys and girls were in elementary school. We found that this was insufficient because to say that it was a reading class still doesn't tell one enough. So then we had to say the class was using the Scott Foresman series and the teacher had it organized into three reading groups in which "group A" was around her doing thus and so. We had to get extremely specific because we found that differences in behavior were a function of these settings. When it was a formal reading group, then by and large the boys who were not in the reading group were goofing off and all of their behavior was on the nonacademic, wandering, daydreaming, part of the continuum. On the other hand when the reading class was structured so that it was independent reading, then the youngsters who were classified as low-achievers were goofing off; the kids who were high-achievers were attending and engaged in work-oriented tasks. This points out that one has to talk about a child rather than a whole class. In the situation above, a low-achieving boy was doing practically all the goofing off and the high-achieving girl was paying attention. I'm not about to say which was causing what. Maybe we can get out of it by saying it was a correlation.

If we look at flexibility again, we cannot talk about flexibility as an abstract of saying it's always going to be good. Teachers must be flexible. Teachers must be indirect. We need to relate flexibility to goals. Some of the intriguing work that Soar did, looking at a South Carolina classroom, points out that we really ought to have a circumplex model of teacher behavior, in the same way that we need a circumplex model, Schaeffer has pointed out, of maternal behavior. We can talk about the "warm teacher", the "cold teacher" and the "controlling teacher" and the "non-controlling teacher." These are independent dimensions. In interaction analysis they are treated as if they are all one dimension; they're not. In other words it is possible to have a warm controlling teacher; you can have a warm-freeing teacher; a cold-controlling teacher; and a cold-freeing teacher. What Soar found is that learning depends upon what particular mix of these dimensions is taking place. For example, in reading achievement in the elementary school, most growth was associated with indirect control or a non-supportive climate, or direct control and a supportive climate. What is characteristically conceived as a good teacher, that is the warm non-controlling one, was not the best teacher for reading achievement. Effectiveness here seemed to be linked to cold or controlling behavior; one of the aversive factors, if you will, had to be present to elicit reading achievement. If vocabulary growth is the goal, then the best teacher for vocabulary growth was the supportive non-controlling teacher. In both of these situations the worst teacher is the controlling non-supportive. This is apparently a "mix" to avoid.

The point here is that we can't talk about any dimension as necessarily good in all situations. It must be related to pupil growth, it must be related to goals. One of our problems unfortunately is that we have been stressing, in Head Start and Follow Through programs, only the cognitive domain in terms of measuring the goal. We talk about I.Q. and where a child improved in cognitive development. It may be that the very teacher who can do the best on that or the style that brings that about, is not necessarily the style that brings about certain kinds of affective growth which we may also be interested in. I hope we're interested in both domains. The problem then, it is a lot more complex than we used to think it was.

This leads me back then to Dr. Rashid's point about the need to describe before we assess. It seems to me that there is a model that Wright gave in the Manual of Research on Child Development, in which he talks about an open system rather than a closed system. Perhaps we need to go in first and simply try to describe what we see. Then we can move to hypothesis making, in which we set up some particular categories in a closed system and observe simply for those. From this we can begin to trace relationships to pupil behavior. I think Jack Wirtz's studies of the Israeli child rearing settings may offer us a clue. This is very specific, very detailed, very elegant way of describing something. What he did, in effect, was to look for a period of time at just what was going on. He didn't look at it from the psychoanalytic viewpoint or from any other preconceived framework. He looked first and tried to describe the settings. He listed these settings which included feeding, diaper changing, sleeping, etc. Then he identified the agents who were interacting with the infant during this time. He listed how many minutes the mother spent in feeding, how many minutes the father spent, how much time with the boy, how much time with the girl, and so on. With this tremendous amount of information, they can begin to relate it to a variety of other kinds of responses. This approach does give us a way of looking at the questions:

"What is going on?" Out of this welter of activities what is "information" and what becomes "noise"? That is still a basic question and I think this approach is important and useful.

We were talking earlier this morning about the use of videotape which hadn't been mentioned much in our discussion. From my point of view this is a "gimmick" which can be very useful. But if you ask a teacher just to look at her own behavior on the videotape the first kinds of things she is going to address herself to are not necessarily related to pedagogical behaviors or pupil outcomes at all. It could be "I didn't know my skirt was so short." Or "My hair wasn't combed." Or "Gee, I didn't know my voice was so low." But it will be more fundamental personal attributes that will be extremely difficult to relate in kindergarten at least to pupil growth. The point is that one has to have something in mind for looking at what's on the videotape rather than simply "Well, I'm going to go make tapes and everybody will look at them and enjoy them."

If we move then to the notion that Dr. Rashid had, then we need to "describe the patterns of activity settings, the explicit or public objective which such settings are described to reach and the behaviors which result from the requirements of the settings." I think these are very key ideas. And I would simply like to reinforce what she had to say about them. As we turn to evaluation of Head Start or Follow Through, these ideas are critical. We have spent considerable time and effort in describing inputs and outputs. And we also need to describe what's going on in the assembly line. I think this is what Dr. Rashid is suggesting; we need to describe the patterns of activity-settings used.

It is fallacious to assume that because two places say they are doing the same thing, or are using the same model, that they actually are the same operationally. We need to engage in a very systematic observation: the kind of monitoring or quality control, if you will, for taking samples over time of what is actually transpiring, to see whether or not they are doing what the model says they ought to be doing, and whether or not in reality the models they say they hold really differ when they become operational. We will attempt to do some of this. Dr. Soar is now attempting to do some of this. Let's look at the Follow Through models, for example, which are going to be instituted in a variety of communities. Some places will use Bereiter and Engelman, others will use the British Infant School, or the Bank Street approach and so forth. On what dimensions are they alike and on what dimensions are they different? Only as we begin to address ourselves carefully to that kind of question will we have the kind of research and evaluation that tells us the directions for new programs. Here are some possible mixes; the degree of cognitive emphasis; the source of reinforcement; the amount of internal versus external control; the degree of structure; the provision for explicit feedback. All of these can be looked at pretty carefully in terms of classroom systematic observation. If we follow-up again on the point of the need to train teachers in observation systems, yes, I heartily subscribe. You know my biases already. I don't think we should train them in a single system. I think we need to train them in a variety of systems so I would like to train them in both Kounin, Flanders, FLAC and so on. I think this is possible with time. Teachers ought to self-appraise in relation to sets of goals. But they need training in defining goals, in what activities to use, etc. If we take Dr. Rashid's example of the trip to the zoo, the average teacher will not be able to discuss the rationale for this beyond the cliché "It's a good experience." I would remind you that Dewey said that all experiences are not equally educative. Why is the teacher taking children to the zoo? What does she expect to come from this trip? How is she going to measure outcomes? The provision of experience per se ought not to be the goal. We turn then to the second half on teacher style.

The match of cognitive style or teacher style with pupil cognitive style I think is extremely important. There's good data on the individuality of pupil perception and the importance of the pupil's perceptions of the teacher's goals. But let's not kid ourselves on the simplicity of the relationships involved. Let's take a high school situation for kids who have been labeled failures. One of these students feels that he can't learn, let's say, and that he has been dumped into a special class is further demonstration to him that the school thinks he can't learn. The teacher comes around and attempts to purvey an attitude of "I think you can." Then the student thinks either she's crazy or I'm crazy but he sets out somehow or other to prove that something is wrong. I think there is some work going on at Stanford matching teacher and pupil cognitive style. Again I would hesitate about making prejudgements. In other words, suppose a kid has an analytic style or a concrete style, or he's impulsive. I don't think we should make the assumption that the teacher style should match the pupil style; that we need analytic teachers for analytic kids, synthetic teachers for synthetic kids, impulsive teachers for impulsive kids. It may very well be that we need just the opposite; that the impulsive kid needs the analytic teacher, and so forth. Again we should not forget putting into the equation the nature of the task. It may be that the task operates coercively: the only way you can solve a given task, for example, is to be analytical. It doesn't much matter at this point whether the kid is impulsive or the teacher is impulsive--the only "winning" style is analytical on that task and the task coerces both the teacher and kid to be analytical for that period of time. We need to change our equation from "teacher behavior equals pupil behavior" to "teacher behavior modified by task requirements equals pupil behavior modified by pupil characteristics."

If we turn to the problem of self-disparagement I would refer you to two references: one is Rosenthal's very intriguing little book called Pygmalion in the Classroom and the other, Esther Fuch's book about I.S. 201 called Pickets at the Gates, which offer a number of clues about teacher behavior particularly in respect to the ways in which teachers non-verbally communicate expectations to children which convince children that they are worthwhile or not worthwhile. In Fuch's book for example she asked the Harlem kids "How do you know the teacher hates ya?" One of the kinds of responses is "Every time I get near her she backs off." Words are not necessary. It's quite clear what the teacher is conveying.

In terms of this business again of cognitive growth and how the teacher might influence this, Taba's work is extremely interesting. And Earl Seager's work he made at Merrill Palmer and the report he made of it and some of the work they were doing in the English schools of teaching for multiple attributes offers a great deal for us both in preschool and primary grades and I think it's reported in the new book by Seigal and Hooper on cognitive development. There is a book that Wiley will be bringing out by Sara Smilansky. I don't know the exact title but it's got all the right words in the title: deprivation, disadvantage, socio-dramatic play and research. The problem of the concept of the teacher as active rather than passive may be one of the delineations between the preschool role and the primary role. Smilansky reports on the very interesting finding that the kindergarten teacher in Israel, who is a good middle-class lady, would think nothing of playing the direct teacher role at home with her own children but would be afraid of direct teaching in the classroom because she might hurt the children's psyches. Such a teacher saw her teacher role, and more as a parent than as a teacher, in terms of the provision of direct instruction. On the other hand the disadvantaged parent, which means in Israel those who had origins in the Arab lands, are equally warm and loving. There is no difference in the affectional climate in these homes but these mothers didn't see themselves as teachers. They would say for example "Go put your shoes on." The middle-class mother would say "Come sit next to me, darling, and I'll show you how to put your shoe on. First you do this and then you tie them..." you know, the whole bit. The point is that the disadvantaged child was getting indirect teaching at home, going to school where he got this nice middle-class woman as a teacher, who didn't believe in teaching him in school either and so he was getting indirect teaching from both ends of the line. I wonder how many of our primary and preschool teachers are like the Israeli kindergarten teachers who think it is anathema to tell the kid anything directly or show him something or break learning down into small steps.

I've talked more than my time so I'm going to stop. Though I do have more to say. Perhaps we'll have time during the discussion period to get more specific about some of the issues presented thus far.

Martin Haberman
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This is a good paper. I had three criteria for deciding it was a good paper. I learned something from reading it; secondly I felt compelled to deal with the ideas in the paper rather than my own ideas; thirdly, I was motivated to rethink some of the things I believe as a result of reading the paper. The second reason I'm grateful for being invited is that most people today are considered experts in teacher education. It's like politics, religion, sports; the fellow who cleaned the suit I'm wearing probably feels that he's an expert in teacher education. And the funny thing is that to some degree he's right. He has lived through the system and maybe this gives him the right to be, if not an expert, at least a critic. It seems that a professional teacher educator or someone who spends his time just in this field is usually sloughed off. He seems to be a member of a vanishing breed. I'm grateful to be invited someplace as a teacher educator and I appreciate the opportunity to speak in that context. I would like to deal with each of the issues that Dr. Rashid has raised. I know you don't have the paper. There were eight points, four in the first section and four in the second section where she summarized and made some suggestions. I would like to repeat what those suggestions are to emphasize her paper and to make some comments about them in respect to their implications for teacher education.

After the first section which dealt with classroom management, Dr. Rashid suggested that we need more descriptive studies to determine areas of similarity and difference between preschool and primary grade programs. My experience with this issue has been this. At a place like Rutgers, the Douglass men and the Douglass girls self-select themselves into secondary education because of their strong liberal arts backgrounds. So that we have to contend with the issue that, from a teacher-education point of view, whoever prepares for teaching in this country is doing so largely by a self-selection process. Whereas people actually working in the field are faced with pressing needs that require both commitment and professional skill. The analogy with medicine might be preparing dermatologists when the basic need may be cancer research or finding cures for fatal diseases. Now I'm in the process of placing two hundred student teachers. Most of the girls at Douglass want to teach French in Jersey City or in Newark. They want it arranged to have a cab bring them back and forth or for the school to be within walking distance. Now the fact that in the entire state of New Jersey we need only eleven teachers of language and they are in the area of Latin and Spanish doesn't mitigate the fact that most of the Douglass girls are going to wish to teach French or possibly French-English. What I'm getting at is that from a teacher education point of view there is probably a basic difference in who prepares to teach. Let's look at colleges and universities which prepare people to staff Head Start programs, or to staff the needs of American education, let alone Head Start and other "new" programs. The total output of teachers in early childhood, among some twenty two hundred universities and colleges in this country was twelve hundred last year. Now if the colleges and universities in this country are preparing twelve hundred teachers in early childhood and we continue to look only to colleges and universities--the best thing that can be said about us is that we are unrealistic. That's the best thing that can be said about us. Another statistic: five-sixths of the people who are certified by their states, get "A's" and "B's" in student teaching. Still another statistic: five-sixths either don't teach or quit in their first year. Now that's very interesting. Suppose five-sixths of the kids in the Head Start program were dropped. Do you think the public would be concerned about it? I think they might. Well, anyway, this first issue about the similarities and differences between preschool and primary programs. There is a difference for one major reason. The people who self-select themselves to become teachers in those areas and on that level, and here I'll make a global generalization, teachers of early childhood are concerned with activities. They are "activity-oriented cats." People in the primary grades are concerned with skills-they are skill-oriented people. People who work with older children are content-oriented people. It seems to me this is the one area where Dr. Rashid deserved to be and was faulted by Dr. Gordon. The content to be taught has to be emphasized in research and that is the first major point I want to make.

The second point of Dr. Rashid's summary, which I think is a good one also, concerns a standard system of notation. I wrote in "GREAT". But as Dr. Gordon pointed out, and as others besides Dr. Gordon pointed out, a way of seeing is also a way of not seeing. One needs categories to describe but as soon as you have categories you've put blinders on and preclude the opportunity to have a complete intake. I think his suggestion about some kind of initial open point of view, one of recognizing biases, is the way to proceed. A way of seeing is a way of not seeing. One needs the categories but as soon as they are developed other things are precluded.

The third point which Dr. Rashid made is the need for more information about the degree to which the behavior of the teacher as an adult manager is coerced by activity settings. How does the construct of teacher flexibility relate to classroom ecology? This is I think the most important point of her paper and therefore, the most important reaction that I can give. Institutional role and the press of social systems in which we participate is the greatest lack in the research area. The reason this is true is because education is basically based on psychological determinants of human behavior rather than on economic models or political science models. Let me give you examples of what I mean. Teacher education for fifty years at least and perhaps longer than that has tried to improve individual teachers on the assumption that if individual teachers improve, the whole system will be improved and changed. This would be equivalent to going to Viet Nam, saying to a private "What do you do?" "Well, I give out overalls." "How many did you give out last month?" "Fifty." "This month give out two hundred. We'll make a two hundred percent increase--four hundred percent increase in efficiency." We would ask another private "What do you do?" "I bury the dead." "How many did you bury last month?" "Oh, I buried ten." "Alright, this month bury twenty." Not only do we ask these questions of the soldiers in Viet Nam but we help each of those men see the purpose and feel fully committed to what he is doing. Let's assume all those things are possible. That we get them to improve their productivity and we get them to really believe in what they are doing. We help the medical corpsman see that his job is the most important, we help the supply guy see that his job is the most important, and so on. Everybody is now fully actualized and four hundred percent more productive. My hypothesis is we would still have the same problem in Viet Nam that we have now, because the problems deal with institutional-social system relationships related to goal orientations and purposes. And it is completely simple-minded to conceive of the problem in terms of improving each product. And this is the basic model we have in teacher education. So we help a teacher to get a Master's degree someplace so she'll be a better teacher. And that somehow will "rub off" on the total system. It has not worked, it does not work now, it will not work in the future. But that's the model we currently use. Let's carry this further in terms of Dr. Rashid's point. If you tell me I'm an airline stewardess I will engage in certain behaviors. I will first give out magazines, I will then insist that people's belts are buckled, I will then say "coffee, tea, or milk?," I will then go around and find out who wants dinner, then serve the dinner; I will then collect the empty trays; and I will make an announcement when we take off and land and I will also introduce a colleague who will show you how to breathe in and out. There are eight behaviors. But that has nothing to do with personality. There are eight behaviors within a very limited role. The same is true of an usher. He has four purposes in his role. He needs to show people to their seats, show people to the fire exits in case of an emergency, stand outside to announce "standing room only" and hand out programs. The point is that you may "self-actualize" me and then put me into my role. What difference does it make? You make me very creative and put me into the role and then tell me I need thirty credits in how to improve my limited role. Let's stay with this third recommendation: effective teachers, effective managers, can distinguish between managing and organizing the environment and managing ideas. There is a real difference. A teacher who cannot distinguish between the two would do something like this: "Well, where do you think we ought to keep the art paper? Let's vote. How many think we ought to keep it on this side of the room? Seven. How many think we ought to keep it on that side of the room? Fourteen. Okay, that side of the room. How many colors should we use? How many colors should we use when we make our Father's Day cards? How many people want red? I'll write that on the board. How many people want black?" Et cetera, et cetera. Then suddenly it is time to make the Father's Day cards. I roll up the screen and say "Here's the one I want you to make." Period. Now suddenly when it comes to the work, I'm directing! In the management and organization of the room I'm Miss Thomas Jefferson of 1912. When it comes to the actual practice of the sharing of ideas I roll up the screen and say: "Here's the Father's Day card. Make it; I will walk around the room to tell people how well they're doing....That's a good one....That's a bad one!....That's a bad one!"

I'm drawing this in broad strokes because I think that's the way we remember things. The teacher who is effective does the opposite. She says: "We're not going to talk for the next half hour. The art paper is going to be on that side of the room. Don't get out of your chair unless you're going for art paper. When you are through do something else." Bing, bing, bing, right down the line; but when it comes to the Father's Day card she will say, "Gee, that looks interesting. Who are you going to sent it to? Your uncle? That's nice." Because maybe he doesn't have a father. But the content of the ideas is open ended. What is "managed" ought not be the ideas but the organization of the materials. The equipment, the time schedule, etc. And these ought to be managed to permit the students to handle ideas without excessive restriction and premature evaluation.

Now the fourth recommendation has to do with getting systematic feedback about teaching behavior. What teachers need is not simply feedback but guided feedback. That's point one. Secondly, teachers must be reassured that the feedback about themselves as individuals is important. There is a low self-concept among most teachers, who in the adult population are disadvantaged in the same way that inner-city children are the disadvantaged in early childhood groups. I think teachers are disadvantaged and maybe feedback has to start with the teacher's self-concept. Maybe this has to be the very first step of a teacher education program. That's what youngsters in school are very concerned about and also those who are preparing to teach. The third stage would be to recognize the results of the feedback on the child's behavior. Remember Dickens' Christmas Carol? It wasn't only Marley's ghost who frightened Scrooge as the angel of death took Scrooge around. Scrooge actually had the opportunity to see the effects of his behavior. Scrooge had the opportunity to see into the future--to see if Tiny Tim would die. He had the opportunity to see that he himself would be unmourned. The opportunity to see the effects of one's behavior is a compelling situation.

The fourth level is the role hang-up. You know the effect: and this is the point I made earlier, you know the effect you have on a youngster but you are caught in the role anyhow. Now not only is there feedback on the first level of self-concept but there is feedback on the second level of working on your behavior; on the third level of the effects on the child; the fourth level is the institutional level. Teachers are caught in the role. Remember Melville's great novel, Billy Budd? The illustration is a dramatic one. The Captain didn't want to hang Billy. And the only one who knew it was Billy. When they put the noose around his neck he looked at the Captain as if to say "Don't feel bad, Captain. I know you gotta do this." Billy was the only one who really understood. The Captain begged Billy to forgive him. He was saying as long as I wear the Queen's epaulets there's only one thing I can do. The roles were reversed. Poor Billy was reassuring the Captain: He was saying "I understand Captain, I understand you have to hang me, Sir." We need to look at more than feedback and the result of the teacher's behavior. We need to examine the system. Teachers must decide on participating in the institution because there are still changes they think you can make or opting out. But as teachers do participate in the system they need to be inside critics. As long as one is willing to wear the Queen's epaulets, one must realize that he too is a murderer. Last week I was faced with a young man at Rutgers who had had an "F" in a course. We both admitted the course was poor. But all I could say to him was "You have to take the course again. There are two thousand other people on eight campuses for whom that course is required. We can try to improve courses, make them more relevant, and so on; but while that's happening you have to take the course again." The point I'm trying to make is that there is an institutional hang-up. If I were a first-grade teacher in a public school in New York City, I would make my major goal the teaching of reading. As limited as I think this is, I think that's the nature of the system and that's the way in which I would be evaluated. Unless you're going to change the way in which you evaluate me, and unless you're going to change the way in which you evaluate the children, that's what I'm going to teach. I'm going to teach reading and I'm going to teach it well. And so we come back to the institutional role. And the point which Dr. Rashid made triggered all that off.

I think we ought to look now at her points dealing with teacher style. This is so important. The first point is teacher style. Louie Hyle studied it at Brooklyn College a few years ago. Teachers were grouped into certain categories of personality and students were grouped as waiverers, opposers, conformers, strivers. Then there was a match of who learned the most with which. Now here is the point on which I would disagree with Dr. Gordon. It isn't a question of matching them up alike or matching them up differently. It's a question of matching them up in teams as it is done in good early childhood settings. One youngster may have four teachers; a broad range of human personality instead of one individual is involved. The child has a person concerned about neat organization, planning, time schedules; a somebody to see that everything works well. A good part of anyone's life requires that. I want a person like that to land planes at the airport. There are jobs in our society which require compulsively neat people. Building a bridge is an example of a situation where such people are to be valued and honored and used. The great motivator, the great person who can motivate people to do anything, but who doesn't know how to teach them is useful. After he's got the students interested and they are all looking at him he says "What do I do now?" It isn't a question of personality labeling, it's a question of using people of different personalities in team efforts. It's a question of dropping the simple model of "one teacher-one child". Let's use the model which Head Start uses so well in its centers. There are bus drivers, parents, assistant teachers, and so on. The model is based on personality, not on credentials. It is a team model not a model using a one-to-one correspondence between licensed teachers and children.

I think Dr. Rashid's points about sex roles are well taken particularly in respect to the disadvantaged. But I do want to add something. I think that children learn their sex roles from other people besides their parents. We have a little girl who reached the age of four; we decided it would be good to teach her that she has to wear clothes. So we started buying her pretty clothes and so on; you know. We started giving her walking lessons. This is true. We told her how pretty she was. She became very clothes conscious, very feminine. But she still goes around naked. Now she did not learn this from her parents. We had a conscious program to teach her to love and value clothes. We still work on it. But she's naked every chance she can get. Children learn from their peers. They learn from other adults, they learn from their total culture. They learn from television. A second example. In vocabulary and language we usually look at the parental model. I remember taking my four year old son into a store in Milwaukee and saying to myself, "Holy mackerel, look at all the hats." And he said "Dad, notice the large variety." Four years old! I said in my heart, I didn't have to say it out loud, "Geez, look at all the hats." He says and enunciates clearly, "Dad, notice the large variety." Now when you consider sex roles in specific terms, it's not simply sex, it's power. One thing that can be done is this: when you select a group of people for young children, the one variable to look at is people who think they have power over what happens to them. That is not only a masculine trait it is a very pervasive influence on personality development. All the disadvantaged groups need the feeling that they have power and are not just being misused by others. One way to develop this feeling of power is to learn it by having models who do have some power. It's not just that I'm a man and I'm wearing a suit. It's this dimension of being the kind of person who perceives the field and himself largely in control over what happens instead of perceiving himself as a leaf in a stream.

The next to the last point Dr. Rashid made was in relation to cognitive development. I think teachers need to be prepared to deal with the kinds of knowledge rather than the subject of knowledge. Are we interested in teaching generalization? It doesn't matter whether it's in chemistry or physical education. Do we want to teach appreciation, do we want to teach a skill, do we want to teach a principle, a theory? There are pedagogical procedures for teaching lots of different kinds of knowledge. In the real world, though, we usually group teachers in teams by subject matter fields.

He's an English teacher and she's a social studies teacher so we'll group them. I'm suggesting that we have to group teachers more in terms of their instructional skills for teaching various kinds of content. We talked about the kinds of personality earlier as a basis for developing teams of teachers for young children.

How shall we select critical teacher behaviors? Are they teacher behaviors which lead to student learnings in a truly causal way? Can we afford the time such research would take?

I'm willing to assume that certain kinds of things are worth knowing by teachers. I'm willing to assume that how to make a response to a stupid or inappropriate child response is a skill worth developing. I'm not going to wait for researchers to connect that skill with learning. I'm going to assume that differentiating assignments on the basis of interest is a skill worth learning. Even though researchers have not yet connected this with high reading scores. I'm going to begin where they leave off. My concern is changing the behavior of adults preparing to teach. I don't see how we can waste our time while a few people develop some esoteric kinds of designs to identify causal relationships. I'm going to try to do it by convincing you on two bases. There are at least three ways to convince people: on the basis of research evidence and on two other bases. One is on the basis of experiential evidence, face value. The other is in relation to some theory which supports the experiential evidence. A search for causal relationships can become a will o' the wisp. Using experience and theory as the basis for making decisions may be necessary expedients in terribly complex situations.

I want to say something in regard to personality change. Most of the research so far deals with characteristics, personality attributes, belief systems and perceptions. Research hasn't dealt with the structures of personality. Teacher educators deal with adults with little opportunity to change them except in very superficial ways. Personality ought to be a major criterion in the selection into teacher education. But the reason we have so little data on personality is the difficulty of collecting it on college students. One can't get permission to get personality profiles on adults for a very good reason. There are large numbers of teachers and a large number of people preparing to teach them. They represent a normal distribution of the population. Because of the sheer numbers of people involved, the best that one can do is to select out potentially harmful cases. To pretend we can deal with personality, on any level but the superficial is to be hopelessly romantic given the large numbers of people involved.

This brings me to the final point that Dr. Rashid made. If we do away with courses and workshops we can develop either mini-courses or some form of feedback systems. There must be some specified goal so that, for example, teachers know they are going to learn some specific listening skills. Teachers need to know they're expected to improve by "X" amount how much they remember of what another person said. They know they're going to become "X" amount more successful at guessing the underlying feelings. They know they're going to become "X" amount more successful at remembering the questions asked to get someone to talk more. Teachers are aware that they are expected to become "X" amount more successful at discerning generalizations and sifting facts from fancy. First there is a one-day workshop in listening; two months from now there will be a one-day observation in the practice of implementing these same four listening skills in the classroom. We need a whole sequence of very specific behaviors that we want teachers to be able to perform. But these behaviors come from our assumptions. They are assumptions justified by some theoretical commitment and some experience. If we wait for hard data about effective behaviors we may have to wait and wait and wait and never get into the ball game.

These are some of my reactions to Dr. Rashid's points. I'll stop now so you can discuss some of these issues.

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It is important that we seek to find out whether it is feasible, on the basis of current research and practices, to define and evaluate what might be acceptable as a "model" role of the teacher, her teaching style, and classroom management. For years, we have been trying to find ways of measuring a teacher's effectiveness. It appears that no one has been successful in setting forth highly defensible techniques.

Professor Rashid has done a scholarly job in putting before us the concern that, to date, research appears not to give clear or specific directions in regard to teacher style and classroom management. Her question is focused: What, if any, yardsticks can be determined through present research to justify teacher style and classroom management? - -

- - In an address at the annual meeting of the American Council on Education in New Orleans, then commissioner Harold Howe, II, said, "If we cannot measure teaching. . . . weigh it, take its temperature, or otherwise appraise it." He questioned whether we should consider that teaching is headed downhill. As I respond to Dr. Rashid's paper, in a similar vein, I wonder from what base does research attempt to measure the teacher's "contribution to the educational enterprise or teacher style and classroom management." To what extent has it been possible for researchers to isolate teacher style and classroom management of teachers who guide the educational experiences for a specific group of learners -- preschool children?

The global coverage of classroom management as portrayed by Paul Gump and described by Jackson in his book LIFE IN THE CLASSROOM provides a broad base for research designs on classroom management. I agree with Dr. Rashid that more specific identification of variables and their relationship within the natural setting of the classroom would do much to extend understanding and interpretation of the specific classroom system being managed. The soul and substance of the art of classroom management, if designed for educational purposes, is to stimulate, encourage, and direct learning of children. It appears that what is being sought here is for evidence of managerial classroom situations that define for us or demonstrate for us effective ways that this has or may be done.

Dr. Rashid inferred a belief or feeling that, at the primary grade level, the teacher's role as a manager of the classroom is more intrusive than at the preschool level. O'Brien suggested that the teacher makes the difference in the classroom. He stated that the teacher who is characterized by stimulating, intellectual development; the teacher who is warm and supportive; and the teacher who "actively intervenes" in the educational process is the one who makes the difference. He does recommend, however, that the need is greater for teacher intervention in the ongoing learning process in the preschool for poor or economically and culturally deprived children. According to O'Brien, these children are simply unable to initiate the type of interaction with their environment that will result in desired intellectual growth.[1]

It is vitally important that consideration be given to Dr. Rashid's request that research designs take a serious look at "differences in perception of roles on the part of preschool teachers and primary grade teachers." How the teacher perceives her role is a fundamental basis for determining classroom management. The teacher needs to be clear enough about her role and responsibility so that she can strike a balance between "setting limits" and permissiveness.

Preschool teachers, and primary teachers for that matter, need to be assured that they are responsible for establishing a balance of controls, allowing children fluidity and ease, which work toward the development of self-control. On the other hand, they need assurance that too much permissiveness frequently implies to the child a lack of adult concern. How and when will guidelines be set that will give a reasonable measure of security or assurance for preschool teachers?

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[1] O'Brien and Lopate, "Pre-School Programs and Intellectual Development," (pamphlet) (Urbana, Ill.: University of Illinois, College of Education).

I wish I could prescribe for teachers the type of classroom management that would establish a balance of controls. - - Unlike a doctor's prescription, the dosage cannot be handed out in neat bottles of pink, green, or yellow pills. It is to research that we must run -- and this appears to be what Dr. Rashid is asking that research do for the sake of "improved classroom management."

Noting the problem with which teachers are constantly faced -- what is good and what is bad in terms of the total welfare and development of young children as they attempt to create the proper environment for learning -- I endorse Dr. Rashid's view that there is urgent need to first find ways to observe in order to describe the desired behavioral patterns sought in children rather than observing to appraise behavior. It appears that a basis for description of basic behavioral patterns was what Clark Moustakas and Minnie P. Berson had in mind in their statement of the aims of preelementary education. Also, Nolan C. Kearney's summary of objectives in the elementary school was toward this end.[2]

Further in this regard, a look at the characteristics and needs of five-year-olds and how the kindergarten tries to meet them as outlined by Salot and Leavitt in THE BEGINNING KINDERGARTEN TEACHER may serve as a means for more sober thinking and planning for research designs which will describe behavior as a basis for more effective classroom management.

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[2] De-Young, et al., American Education (New York: McGraw-Hill, 1964), pp. 134, 154-55.

With respect to adaptability or flexibility of the teacher as a manager of the instructional setting for learning, there seems to be not only a need for clarification of flexibility, but a need to understand the preschool child as the central factor in the classroom that gives cause for the need of flexibility. Teachers need some type of measuring rod from which they may judge or assess their reactions or responses to the different personalities they attempt to guide and shape -- for the sensitive, perceptive teacher recognizes that there is nothing so unequal as equal treatment of unequals.

It might be well for those of us who seek for possible answers to perplexing questions about classroom management and for those of us who administer the programs in which the managerial classroom officers (the teachers) hold forth to reread Kozol's book DEATH AT AN EARLY AGE. I am not suggesting that the type of classroom management or teaching style illustrated in this book is widespread. However, the fact that this could happen in 20th century America "in the 60's" cannot be dismissed lightly. It is at this point that I may be projecting beyond the intent of this analytical paper, but I believe I am keeping within the bounds in saying that we need more specific descriptions from research -- descriptions that are practical to the point that they can be interpreted and used by preschool and primary teachers. Assuming that this can be done, the question arises: "What is beyond the completed research; who will help the teacher to effect, in her classroom management and teaching style, the needed changes when research gives more specific directions?"

Since the teacher is the individual through whom the planned (not formal) program of education reaches the young child, it is extremely important that Dr. Rashid has devoted a portion of her paper to "the way in which the teacher plays the role of classroom manager." She has termed it "teacher style."

A teacher is a sculptor who molds the child's mind. - - A teacher is an architect who blueprints the child's career. - - A teacher is a pioneer who explores the child's character. - - A teacher is a diplomat who negotiates with the child for the future. The world seldom notices who good teachers are, but civilization depends upon what they do.

As I see it, teacher style results from a combination of strengths and weaknesses in both personality and procedure, or approach, in and out of the classroom -- playground, trips, etc. Research has pointed out and classroom practices have confirmed the fact that rich and varied educational experiences at an early age enhance a child's intellectual activity, self-assurance, and social skill -- and, thus, the potential for his continuous academic achievement. In this regard, one important factor that must not be overlooked is tutelage from a wise, warm, resourceful, flexible teacher. The kind of teacher in the classroom makes the differnnce. "Kind of teacher" is what I assume that Dr. Rashid is speaking of when she refers to teaching style. What is the teaching style of the teacher who makes the difference?

It is in reference to the "kind of teacher in the classroom" that Dr. Rashid is in quest of clarification. She says -- and I concur -- that research needs to isolate or state in more specific terms the styles of teaching and their influence on individual children. Earlier reference was made to O'Brien's findings in regard to teacher intervention and its influence on the economically and culturally deprived child. This research does not go far enough to indicate the "how" of intervention. Thus, the problem, as referred to in this paper, looms large in regard to styles of teaching and their relevancy for:

- individual differences
- culturally defined sex roles
- cognitive development
- social development

As factors that form the cluster for teaching style are identified or isolated, it appears imminent that the definition of perceptual skill as a basic factor will play a major role in determining the nature of the teaching style or the way the teacher handles the instructional settings for learning. A teacher who possesses perceptual skill does not only impart knowledge to children, but awakens their interest in it and makes it easier for them to perceive for themselves. Such a teacher is a spark plug -- not a fuel pipe. She helps the child to clarify ideas and enlarge concepts by knowing what to "pull out" or what to emphasize for each child as he works to understand. Her knowledge of the importance of role models for certain groups of children can be noted in the efforts she puts forth to enhance the child's self-image and strengthen his emerging personality.

It is evident that the quality of the scholarly, provocative paper and its presentation by Dr. Rashid make it incumbent upon us to go forth from this day of deliberation determined to do our bit to make possible the realization, in theory and in practice, of the two important educational issues projected at this conference. Teacher style and classroom management can and should have a reasonably common meaning for preschool (and primary) teachers so that their teaching skill and perceptive powers will make them the type of teachers who "do not blow out the light within the brain" of the child, but who foster understandings that "will make it glow."

THE TEACHER AND CLASSROOM MANAGEMENT: A BIBLIOGRAPHY

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Seminar #3

HEAD START POPULATIONS

Robert Boger
Myles Friedman
Kuno Beller

POPULATION CHARACTERISTICS

OF

DISADVANTAGED PRE-SCHOOL CHILDREN

Myles I. Friedman, Editor

Introduction

The three papers included in the present document were presented on October 9, 1968, at a seminar sponsored by the Office of Research and Evaluation, Project Head Start. The seminar was held in Washington, D.C., and was under the supervision of Dr. Edith Grotberg, Coordinator of Research.

The three studies reported dealt with population characteristics of disadvantaged children and were long-term projects. Although none of the investigations were complete at the time of the seminar, it is believed that there is considerable value in reporting the direction of work in progress when the work involves longitudinal studies such as those included. The free exchange of views and directions of inquiry is at least one means of stimulating fresh insight and new prospectives among investigators with common interests.

There is no indication in the present reports of the intense discussions which took place following the delivery of each paper. It is the hope of the Editor that some of the stimulation of that exchange may be felt by the reader even though the immediacy of the meeting has vanished.

M.I.F.

READINESS AND INSTRUCTION: INDIVIDUAL DIAGNOSIS AND TREATMENT

By

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Introduction

Although learning appears to be a continuous process from the time of birth (or before), formal education is implicitly a purposeful activity. Individuals learn countless skills, facts, and concepts--accidentally and incidentally--throughout their lives. But it is the business of education to direct and sequence learning toward planned ends. Educators, therefore, establish goals for learning and seek teaching strategies for the attainment of those goals.

One begins with the general notion that time and experience bring about changes in the mental state of an individual. The matter of time (maturation) is recognized as being a crucial factor, apparently more so in early learning (childhood) than in later learning but one that is most difficult to separate from experience in terms of influence. The experiences of an individual, on the other hand, are obviously and logically major factors in this changing of mental states which we term learning.

But a change in the mental state of an individual is always a matter of inference. The person behaves in a new manner, and the inference is made that there has been a change in mental state. From these considerations it is a short step for the learning strategist to reach the notion of behavioral objectives for education. Not only is behavior an obvious basis for logical inferences concerning learning, but it makes possible accurate measurement--the assessment of the degree to which educational goals have been attained.

The notion of interpreting or translating more general educational goals into behavioral objectives and the use of such paradigms as the triangle of interacting (1) objectives, (2) learning experiences, and (3) evaluations, appear so logically and empirically founded that one cannot but wonder that they have not resulted in an even greater impact on modern education. The present writers hold that one of the major reasons that they have not is an inadequate treatment of the readiness concept. All teaching strategies naturally assume a starting point or baseline of learning from which a curriculum sequence begins, but the argument is presented here that the investigation of readiness has suffered from the difficulty which educators have experienced in viewing and studying the concept in its logical relation to objectives and learning experiences.

The fact that a great deal of time and effort, particularly in recent years, has been devoted to the subject of readiness by competent scholars can hardly be denied. Important theoretical contributions have been made throughout the past fifty years, and there is a voluminous quantity of empirical findings on different aspects of the subject. Numerous tests have been developed and administered to young children, and these have generally yielded some total measure of readiness which often can be demonstrated to be predictive of success on later cognitive tests. It can hardly be denied that much has been done with the identification of mental "traits," and various instruments have been designed to measure them.

Yet, the study of readiness has not been tightly related to behavioral goals, and the findings have not influenced greatly the logic of curriculum construction. As indicated earlier, the present writers believe that these things have not happened because readiness has not been accurately identified and placed conceptually and theoretically in its proper perspective with goals and instructional strategies. The resulting empirical findings, therefore, have been more limited than they need be.

Current Practice

In relating current practice in curriculum construction to readiness, it is useful to consider two general criteria. One of these has to do with whether or not learners are proceeding--as a result of a curriculum--toward explicit objectives with optimum speed and efficiency. This concept is consistent with Carroll's[1] position that aptitude is the amount of time required by the learner to attain mastery of a learning task. This view assumes that all, or at least most, learners can conceivably attain mastery of a learning task.

A second criterion for assessing the effectiveness of a curriculum is related to whether learners are moving toward explicit objectives. In a given situation one set of objectives may be stated while an investigation of the associated curriculum may reveal that learners are proceeding toward some different or implicit group of objectives. (Of course, if learners cannot proceed from their present levels to the objectives, then the curriculum which proposes the impossible sequence is in error.) In other words, the learning activities may not be valid steps to the goal or goals.

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[1] John Carroll, "A Model of School Learning." Teachers College Record, 1963, 64: 723-733.

Now as the educator sets about the task of constructing a curriculum, it is necessary for him to identify the objectives the curriculum is to attain and to consider the nature of the baseline upon which his curriculum is to be constructed. In other words, he must ascertain where the learner is to go and where he is at the beginning of the learning experience. It follows, then, that if a curriculum is to be constructed that meets the first criterion (optimum speed and efficiency) the educator must know: (1) the characteristics that the learner is expected to have when he reaches the objective; (2) the characteristics of the learners who are to be administered the curriculum; (3) whether it is possible for the learners to reach the objectives--mental retardates would not be expected to reach the objective of facility with advanced algebra; and (4) references to efficient means of proceeding from the baseline to the objectives. The more the educator knows of each of these four items, the more valid (under the criteria presented) can be the resulting curriculum.

Although there is significant work being done in the field which is related to both criteria listed (Gagné's[2] work with the sequencing of learning activities is particularly relevant), a consideration of the speed and efficiency of a curriculum quickly reveals significant problems. In order to more accurately identify the characteristics that the learner is expected to have when he has attained the objectives, the notion of behavioral objectives has been accepted. There is little doubt that this is immensely important in increasing the effectiveness of a curriculum.

But with respect to the characteristics of the learner to be administered the curriculum--the baseline of the curriculum--the popular referents continue to be those of grade level, age, group means, and population norms. Grade levels and age are quite gross for use as readiness referents; there is sometimes as much variation within groups as there is between adjacent groups. Group means and population norms certainly lack precision as referents; but more importantly, none of these referents are behavioral referents. The mean of a group of behaviors is not a specific behavior. Granted that these referents are quite useful in comparing the general status of individuals and groups to other individuals and groups, but the use of the referents as indicators of readiness result naturally in teaching strategies aimed at some point of central tendency in an instructional group which may not reflect the specific readiness of any member of the group. Individual attention thus becomes the goal of the classroom teacher, but individually prescribed instruction remains impossible in the absence of individual diagnosis.

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[2] Robert M. Gagné, "Curriculum Research and the Promotion of Learning." Perspectives of Curriculum Evaluation. AERA Monograph Series on Curriculum Evaluation (Chicago: Rand McNally & Company, 1967), I, pp. 20-23.

Current practice in curriculum construction, then, involves problems associated with both of the criteria noted earlier. The concept of behavioral objectives has been introduced and accepted as a technique for increasing the precision with which educational goals may be identified. But even today, the scope of their use on the classroom level is surprisingly limited. Gross readiness referents such as age, grade level, group means, and population norms provide the base upon which curricula are designed and administered; and grouping practices continue to be an issue as educators attempt to provide instruction to students who are more or less alike on a variable more or less related to the content to be presented.

Not only is the practice of goal identification limited and readiness for instruction a gross and confused matter, but curricular strategies have received relatively little attention in the framework of some total paradigm. The sequencing of content has been accomplished either on the basis of what has come to be known as "content order" or on the basis of "psychological order." In the former case, the instruction gains direction from what is concluded to be an inherent order of the material to be learned. In the latter case, psychological principles are supposed to indicate some order for the content which makes it easier for the student to comprehend. But both methods are more logically than empirically derived and various strategies are rarely tested against each other for relative effectiveness (e.g., procession toward explicit goals with optimum speed and efficiency).

In every profession, treatment is derived and directed from diagnosis. In education, diagnosis (once goals have been established) is the identification of the readiness of individual learners, at a given point in time, whatever the contributing influence of maturation and experience. Educational treatment then is the prescription of specific experiential sequences leading to the explicit goals. The desired end state, the diagnosis, and the treatment must be accurately defined. In a word, improved curriculum construction awaits behavioral referents that lead progressively to behavioral objectives in a valid sequence with optimum speed and efficiency.

The General Direction of the Inquiry

The Committee on Educational Research (School of Education, University of South Carolina) approached the problem of curriculum construction with an initial emphasis on the general concept of learning readiness. The Committee accepted the assumption that cognitive and psychomotor skills[3] are acquired by individuals in discernible patterns and that particular skills are related both to time (maturation) and experience (learning). The members of the group further accepted the proposition that the occurrence patterns are in clusters of related skills in an easy-to-hard sequence in which the performance of a given skill is prerequisite to the acquisition of other related but more complex skills. In other words, the skills emerge in definable types and in common sequences from easy to difficult within types and across individuals.

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[3] Benjamin S. Bloom, ed., Taxonomy of Educational Objectives Handbook Number 1: Cognitive Domain. (New York: David McKay Company Inc., 1956), p. 7.

At this point, it was necessary to define what was meant by readiness, or more usefully, a readiness behavior. Continuing to emphasize the empirical orientation which had characterized early speculations, the present investigators defined readiness behavior in the following manner: A readiness behavior is a unit of behavior that an individual must be able to perform prior to being able to perform another given unit of behavior. The identification and description of a given readiness behavior enhances curriculum construction because a readiness behavior necessarily precedes the achievement of some specific outcome or goal unit of behavior (behavioral objective). Under this definition, an example of a readiness behavior might be the "selecting of the color red" prior to the performance of the behavioral objective, "coloring the house red."

The salient issue is that a readiness behavior is always defined in terms of "Readiness for what?" Once the behavioral objective has been defined, then the sequenced behaviors which always precede it are readiness behaviors. Once such behavioral units are identified and placed in a "proper" relationship to each other, an educator could theoretically identify the sequence of readiness behaviors leading to some goal unit of behavior.

The foregoing considerations naturally led to an early view of a two-dimensional model of readiness in which the horizontal dimension would represent the various types of skills (clusters or "traits," e.g., number ability, word knowledge) and the vertical dimension would represent the appearance sequence of the skills (easy-to-hard). If the entries in the matrix, the cognitive and psychomotor skills, then could be described in a sufficiently objective fashion (empirical behavioral units), the

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matrix could provide a basis for curriculum construction which was more accurate and efficient than has otherwise been obtained.

Of course, the notion of plotting readiness in a two-dimensional matrix was hardly original, but the possibility of operationalizing entries within the cells of the matrix, if awkward or artificial assumptions could be avoided, appeared to offer some promise as a direction for inquiry. Nevertheless, the naivete of the two-dimensional (traits and sequences within traits) quickly became apparent. Aside from the work of important scholars in the field, simple observation would indicate that mental development is much too complex and efficient to be described usefully with so simple a model. Certainly it would not be realistic to believe that cognitive and psychomotor skills could be separated into exclusive columns of related and sequenced skills. A skill appearing in one column might well be prerequisite for the acquisition of skills appearing in some other column. As a matter of fact, logic would indicate that the model should be much more like the learning hierarchies offered by Gagné and others working along similar lines in curriculum sequencing. Instead of entries in a two-dimensional matrix, readiness behaviors might best be considered as elements in a readiness network in which the members were related on the basis of the definition of a readiness behavior (e.g., a unit of behavior that an individual must be able to perform prior to being able to perform another given unit of behavior).

In addition to the foregoing considerations, the network view was advantageous from a research point of view because it involved the fewest a priori restrictions on the collection and analysis of data. The only general assumption involved would be that cognitive and psychomotor skills appear in discernible patterns across subjects (and this assumption obviously would be tested) and the general research question would be related to the descriptions of these patterns. Secondary questions would be related to the comparison of defined sub-populations for differences in patterns. At this point the reader will appreciate that the analysis of the data would be only one of the acute difficulties of conducting a wide-scale investigation along these lines.

Assuming that discernible patterns of cognitive and psychomotor skills can be identified and related (and certainly there are many who have not considered this an impossible task), how would the model be viewed? How would instructional readiness, strategies, and objectives be related? What is the perspective?

Essentially, the present writers contend that the model must be viewed in each of two ways: first, as a readiness model, and secondly as an instructional model. The first view, the readiness model, is deterministic in that the acquisition of certain skills must always precede certain other skills. (Although deterministic, one recognizes that the validation of the model must occur within the structure of a probablistic analysis.) In other words, some skills in the emerging network must be learned before it is possible to learn other skills, and these skills can be defined operationally. These behavior units are readiness behaviors.

The second view of the model is an instructional or curriculum view of the Gagne type and is concerned with what might be described as facilitating points between readiness behaviors. For example, consider a readiness behavior A that is prerequisite to readiness behavior B. That is, behavior B cannot be acquired prior to behavior A. How, then, does the learner move from A to B in the network?

The contention is made that there are probably several routes possible, several sequences of experiences, but that one is more efficient than others for many learners. In other words, a particular sequence of experiences may be most appropriate for the large majority of learners while unique sequences may be most facilitating for particular learners.

Maturation doubtlessly influences the movement from one readiness behavior to another to a greater or lesser degree probably depending to some extent on the readiness behavior to which the learner is moving. Nevertheless, it is the facilitating steps that are the concern of curriculum builders, and these represent alternative paths between readiness behaviors.

The meaning of individual differences in curriculum becomes apparent in the perspective of the model. The model denies different basic sequences of readiness behaviors for different persons, but it does not deny different sequences of facilitating experiences between readiness behaviors.

Now aside from the arbitrary definitions of the model, how do readiness behaviors differ from facilitating behaviors between readiness behaviors? Essentially, the difference is one of precision of measure. The probability of a given readiness behavior being a universal prerequisite to another stipulated readiness behavior is very high compared to two facilitating behaviors. The sequencing of the latter is much more subjective and more dependent upon individual differences in learners. One learner, for example, may go from one readiness behavior to another with a very limited number of facilitating experiences and/or a short elapsed time, whereas another learner may require a larger number of experiences and/or a longer maturation period. But all learners must pass from one particular readiness behavior to another particular readiness behavior. (The position of the present writers with respect to the movement from one readiness behavior to another through means of facilitating steps is consistent with the view of aptitude held by Carroll. As indicated earlier, he defines aptitude in terms of the amount of time required to achieve a learning goal rather than in terms of the probability of achieving it.)

The considerations included in the view of readiness presented on the preceding pages are not particularly new or original. Fortunately, these are not criteria for a fruitful direction of inquiry. As a matter of fact, the more consensus one is able to find for the appropriateness of a starting point, the more valid it is likely to be. The present position does have the advantage of relating readiness, instruction, and behavioral objectives in a logical network with reasonable criteria for planning and assessing the effectiveness of curricula sequences. Moreover, it dictates a highly inductive approach to the problem with a minimum of preconceptions. The difficulty, of course, lies in designing an investigation of sufficient scope and sophistication to lead empirically through the identification of readiness and facilitating steps to the actual construction of curricula and to the development of diagnostic and evaluation instruments. The problems associated both with educational diagnosis and treatment cannot be separated and, therefore, must be addressed together. The Committee on Educational Research began the inquiry with the design of an investigation for the identification of readiness and facilitating behaviors in young children.

Design of the Inquiry

Basic Considerations. The general design of the inquiry was indicated by the discussion presented in the preceding section. Apparently, a large number of behavioral tasks requiring various skills for performance must be presented to a large population of individuals of sufficiently varied levels of mental development, and the responses analyzed on the basis of types and prerequisites.

Each task would be a description of a unit of cognitive or psychomotor behavior which an individual clearly could or could not perform. Examples of such tasks might be: (1) close the door and return to your seat, (2) what color is the dress, and (3) add five and three. At this point no assumptions would be necessary regarding the "type" of functioning required to solve a particular problem task. The emphasis on skill identification necessarily would be inductive and operational.

Many of the design problems associated with such a line of inquiry were immediately apparent. First the selection of appropriately varied tasks for soliciting the skills would not be easy. Every effort must be made to see that these were as representative of a universe of cognitive and psychomotor problems as possible and feasible.

In addition, the administration of the problem tasks to individuals must be such that each problem could be scored as either an absolute pass or fail (not yet learned) with the degree of testing error lowered to a critical minimum. Finally, a method of analysis must be identified or constructed that would be appropriate for treating dichotomous data in a manner that would result in clusters of ordered skills without reference to an extraneous coordinate variable such as age.

From a practical viewpoint, the validity of the identification of readiness and facilitating behaviors would depend upon inclusion in the investigation of appropriately varied populations, a low error method of measurement, and a highly sensitive analytic technique. The extent of the identification would depend on the variety of skills solicited--in terms of both type and difficulty levels--included in the investigation.

[4]The Problem Tasks. The first major problem in designing an investigation based on the above rationale was that of identifying a large number of problem tasks that could be expected to elicit mental behavior from young children. The purpose of the investigation was to identify skills in terms of particular tasks that the subject could either perform or could not perform. It was considered particularly important that the approach be as inductive with respect to the selection

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[4] From this point on, the description of the investigation is almost verbatim from a report to the sponsoring agency, U.S. Office of Economic Opportunity, Head Start (Contract Number OEO-4114), "An Investigation of Problem-Solving Abilities in Early Childhood." August 1968.

of these tasks as possible. Of critical importance was the necessity of the tasks being varied, both with respect to format and content.

A reasonable approach to the problem appeared to be a review of all available tests and procedures for measuring cognitive and psychomotor skills in young children. If items on a given test were viewed as tasks independent of other items on the test, it may be possible to assemble the necessary array of problem tasks. To this end, more than fifty tests were reviewed by the Committee on Educational Research, and an item classification outline was developed as the tests were reviewed. Each item on each of the tests was classified according to the type of behavior it appeared to elicit. Through this process, it was possible to select the widest variety of cognitive and psychomotor tasks and at the same time avoid extensive duplication. Finally, items from twenty-two tests were selected for use in the investigation.

Sample Selection. In view of the nature of the inquiry--the identification of readiness levels--three fundamental considerations were paramount in the identification and selection of subjects to be included in the investigation. These included the age range of subjects to be tested, the sub-cultural groups to be represented, and the total number of subjects to be utilized.

With respect to the age range of subjects to be tested, the decision was made to include principally four, five, and six-year olds (a smaller group of three-year olds were included for a supplementary analysis). The position was taken that inasmuch as the child would be required to respond to verbal instructions in order to accomplish the majority of the tasks, that this was a feasible and defensible age range with which to work. It was also noted that this range could be lowered and raised in subsequent studies on the basis of data obtained in the present investigation.

In view of the nature of the research rationale, it was also necessary to have subjects spread equally across the age range. If skills were to be identified and then related in order of appearance of the skills, obviously there must be provisions made to insure that traits were being sampled at equal intervals along the developmental continuum. Thus, it was decided to divide the age range of four through six years into three month intervals and include the same number of children in each interval. That is to say, there would be the same number of children in the age interval 4.0 - 4.3 months as between 4.4 - 4.6 months and so on.

In the matter of sub-cultural groups to be represented in the sample, the decision was made to include equal numbers of "disadvantaged" children (as defined by Office of Economic Opportunity guidelines) and "advantaged" children as defined as coming from families within a specified income range. The reason for this division was to insure that subjects would come from widely varying experiential backgrounds. This would increase the probability that readiness levels which exhibit consistency over the populations would indeed be "universal." The two groups were further divided into "Northern" and "Southern" with respect to the geographic location of the subjects for the same reason. Within each of the four groups thus defined, the age range and number of subjects within age ranges would be the same.

Finally, the total number of children to be included in the sample was determined by the minimum number required in each of the sub-cultural groups for meaningful analysis and the maximum number considered feasible in view of the extensiveness of the individual items to be administered. The decision was made to include four hundred children across the stipulated age range in each of the four groups. The nature and size of the sample is represented in Figure 1.

Geographic Location	Economic Background		Total
	Advantaged	Disadvantaged	
North	N=400 Ages 4.0-6.11	N=400 Ages 4.0-6.11	800
South	N=400 Ages 4.0-6.11	N=400 Ages 4.0-6.11	800
TOTAL	800	800	1600

Fig. 1.--Sample Characteristics and Size

Testing Procedures and Controls. Once the various tests to be utilized in the investigation had been identified and the criteria for the sample established, it was necessary to design procedures and field controls that could be expected to yield data essentially free of contamination. These procedures and controls principally were related to the amount and frequency with which subjects would be tested and with conditions under which tests would be administered.

Inasmuch as twenty-two tests finally were chosen to be administered, no individual child could be expected to undergo such extensive testing in a relatively brief period of time without excessive fatigue. On the other hand, if the time were extended past a month for the testing of one child, there would be a serious question as to whether or not the data from the collective tests could be considered comparable with respect to the developmental continuum. In other words, maturity would at a point become a contaminating factor.

The tests, therefore, were organized into four "batteries" each of which was to be administered to one-fourth of the total sample. In each sub-cultural group, 100 children across the age range would receive Battery I, 100 children would receive Battery II and so on. The division into batteries was made in such a way as to vary the types of tests across batteries and to achieve approximately equal administration times (6-7 hours) for each battery.

In order that some basis for relating items across batteries would exist, two complete tests were designated as "anchor" tests to be administered to each child in the sample, common to all children.

In addition to procedures involving the administrative scheduling of the various tests, a number of control procedures were devised to assure consistency of testing conditions and validity of the data collected. In general, these procedures required that each battery of tests (including the anchor tests) be administered to the same number of children. Anchor tests were to be administered prior to any battery tests in all cases. The order of administering the tests in a given battery was to be reversed in the two halves of a sample unit in an attempt to counter-balance whatever practice effects accrue as a child was administered the tests in series.

When feasible only one child was to be tested in any room at one time, and no testing session was to exceed ninety minutes per day for any child. These two controls were designed respectively to minimize interference during the testing situation and to reduce the possibility of fatigue. No child was to be tested more than three sessions in a given week, but each child was to be administered the anchor tests and the appropriate battery within one month.

A third area requiring the development of special procedures was the actual administration of the various test items. Each test was to be administered to each child on an individual basis, but there was a general consensus that disadvantaged youngsters have communication problems in this type of situation. The administration of items according to the test manual's specifications perhaps would very often result in a failure to respond because the child did not understand what the task was rather than because he could not perform it. This problem led to the development of what was termed "Maximum Performance Testing." When necessary, the examiner would probe for responses beyond the specifications of the test author's instructions but within the context of the basic intent of the item. This procedure would maximize to whatever extent was possible the likelihood that the youngster would respond if he were capable of responding. The rationale and procedures for "Maximum Performance Testing" will soon appear in a separate paper.

Present Status. At the present time, the majority of the children to be included in the investigation have been tested both in the north and in the south. Certain analytic procedures have been pilot-tested with early data (Southern Disadvantaged) and are now ready for utilization. The first results of the research based on the readiness position outlined in the present paper will be available within the year.

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SUBPOPULATIONAL PROFILING OF THE PSYCHOEDUCATIONAL DIMENSIONS OF DISADVANTAGED PRESCHOOL CHILDREN

Robert P. Boger
Sueann R. Ambron

Introduction

Although the phrase is becoming very trite and increasingly annoying to the ears of social scientists, we continue to run out of time in our programs to overcome basic inequities in the "cafeteria" of opportunity offered American children. Contemporary events indicate that feelings remain strong both from the liberal and the conservative vein, but the "writing on the wall" concerning preschool programs is clear; they will increase and they will become more sophisticated.

One of the real limitations in improving our efforts is the lack of adequate input knowledge about the particular natures of the children we are attempting to help. Education for years has been moving to more prescriptive, individualized approaches to the development of children, and although available resources clearly limit the capabilities of individual Head Start Centers in this regard, we should be able to make Head Start a much more potent force in meeting the idiosyncratic needs of groups of disadvantaged children.

The needs of specific groups of disadvantaged children in compensatory education programs have been armchaired at many levels and partially researched, but specific, empirically based, inclusive approaches for the variety of children in the disadvantaged population are not available. New programs could be designed and those in existence vastly improved if this behavioral information were systematically obtained.

As Gordon and others have so often pointed out, encounters with the environment are especially critical molders and determinants of patterned behavior in young children.[1] The environment of the young child centers in the home where the family acts as the primary agent of socialization imparting to the child the skills, knowledge, attitudes, values, and motives current in the group.[2] The process of socialization is vividly described by Parsons.[3] The child is like a pebble thrown by the fact of birth into a social pond. The effects of this event are at first concentrated at the point of entrance, but as he grows up, his changing place in society resembles successively widening waves radiating from his initial place in the family toward wider orientation. Thus, knowledge about what the child learns in the early years in the home must be a greater part of our input into intervention development, particularly as it relates to specific subcultural groups.

The disadvantaged are a heterogeneous group of economically deprived children, not a homogeneous group as our programs too often assume. In the past three years, since Head Start began, research on the disadvantaged has mushroomed resulting in new classroom approaches and materials, but a gap remains in the information; we still do not know enough about the etiology of disadvantaged or what the term means for specific subgroups of disadvantaged children. Researchers in the field of the disadvantaged tend to make the mistake of generalizing about a population that is infinitely variable. Middle class-lower class comparisons were helpful in the beginning, but for compensatory programs meaningful to specific groups with specific problems, more definitive approaches are needed. In his often quoted paper in the Review of Educational Research, Gordon commented that

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[1] E.W. Gordon and D.A. Wilkerson, Compensatory Education for Disadvantaged Programs and Practices: Preschool Through College (New York: College Entrance Examination Board, 1966).

[2] W.H. Sewell, "Some Recent Developments in Socialization Theory and Research," Annals of American Academy of Political and Social Science, (1963) 149:161.

[3] T. Parsons and R.F. Breio, Family Socialization and Interaction Process (New York: Free Press of Glencoe, 1953).

> there is probably no typically socially disadvantaged child but instead a wide variety of such children with widely varying characteristics. To describe them and plan for them as a group is hence in error; differential psychology is as important here as in any other area.[4]

The recognition of differences should lead to techniques for measurement and for tailoring programs responsive to individual needs.[5] This discussion underlies the need for specific information about the differential school learning abilities of children from various disadvantaged groups.

The focus of the present paper is the development of a proposed approach for profiling psycho-educational dimensions for subpopulations of disadvantaged preschool children. The three main parts of the model are subpopulations of the disadvantaged, psycho-educational dimensions of the child, and process variables of the child's significant environments. Each of these will be considered separately. The development of this work was carried out in large part by Sueann Ambron, a research associate with our Center, presently serving with the Peace Corps in Jamaica.

As Stodolsky and Lesser point out in their significant article concerning learning patterns in the disadvantaged, the problem of definition continues to plague us in dealing with the concept of disadvantagement in our culture.[6] Which dimensions are to be included as critical in defining subcultures within the general disadvantaged population is perhaps the easiest part of the task.

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[4] E.W. Gordon, "Characteristics of Socially Disadvantaged Children," Review of Educational Research (1965), 35(5), 377-388.

[5] Martin Deutsch, "Minority Group and Class Status as Related to Social and Personality Factors in Scholastic Achievement," Society for Applied Anthropology Monograph #2 (1960).

[6] S.S. Stodolsky and G. Lesser, "Learning Patterns in the Dis-Advantaged," Harvard Educational Review (1967), 37, 546-593.

Subpopulational Variables

For the purposes of this model, the following selected subpopulational variables were included to form the matrix: (1) cultural group, (2) rural or urban locale, (3) geographic area, (4) social class, and (5) sex. If one thinks in terms of the typical cubic model, each cell or block defines a theoretical unit of the overall population of the disadvantaged. In reality there are empty cells in which a nonsignificant number of children fit, but the vast majority of the cells describe significant groups among the disadvantaged. Children within a given group can then be identified according to the subpopulation variables defined by the cells of the subpopulation matrix.

Cultural Group. The major subcultural groups of the disadvantaged have been identified as Black American, Mexican American, Puerto Rican, American Indian, and White American. Though fewer in number, members from other cultures such as Oriental, Polynesians, and Eskimos are also among the disadvantaged. _Cultural group_ membership is here defined as a "collection of people considered both by themselves and by other people to have in common one or more of the following characteristics: (a) religion, (b) racial origin (determined by identifiable physical characteristics), (c) national origin, or (d) language or cultural traditions."[7] Some features of the cultural heritage of the Black American, Mexican American, Puerto Rican, and the American Indian conflict with the dominant American culture, making adjustment and acculturation difficult. The movement of many of these people to new locales in search of a better life has increased this problem.

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[7] J. Harding, B. Kutner, H. Proshansky and I. Chein, "Prejudice and Ethnic Relations," G. Lindzen (Ed.), _Handbook of Social Psychology_ (Cambridge, Mass.: Addison-Wesley, 1954), pp. 1021-1061.

In the cities the disadvantaged have been confronted with life in an industrial urban society for which they were not prepared. Mainly from rural backgrounds, they lack education and job skills and are often discriminated against in employment and housing. Among the disadvantaged cultural groups that are moving to urban areas in substantial numbers are Black Americans from the rural South, whites from southern mountains, and Puerto Ricans from the islands. These groups have primarily migrated to northern industrial cities. Mexican Americans are moving to urban areas of the West and Middle West, and American Indians are slowly migrating from the reservations to the cities of the West in search of a better life.

It is not the purpose of the present paper to review the backgrounds of all the disadvantaged ethnocultural groups, but rather to establish the validity of this dimension.

The cultural roots of Black Americans were destroyed and a foreign culture forced upon them when they were brought to the United States as slaves. Slave status resulted in degradation of self-esteem and the deliberate destruction of the family unit. Within this system the male role was diminished while the female role was enhanced. In a society where Black Americans have been grossly relegated to an inferior status, these role differences for the average Black American have continued.[8] Although most Black American families today are headed by men, the proportion of families with female heads is much greater among blacks than among whites at all income levels, and has been rising in recent years. The Kerner report states that among families with incomes

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[8] H.J. Gans, "The Negro Family: Reflections on the Moynihan Report," Commonweal (1965, October 15), pp. 47-50. A. Kardiner and L. Ovesey, "The Social Environment of the Negro," S.W. Webster (Ed.), The Disadvantaged Learner: Knowing, Understanding and Educating (San Francisco: Chandler, 1966), pp. 141-160.

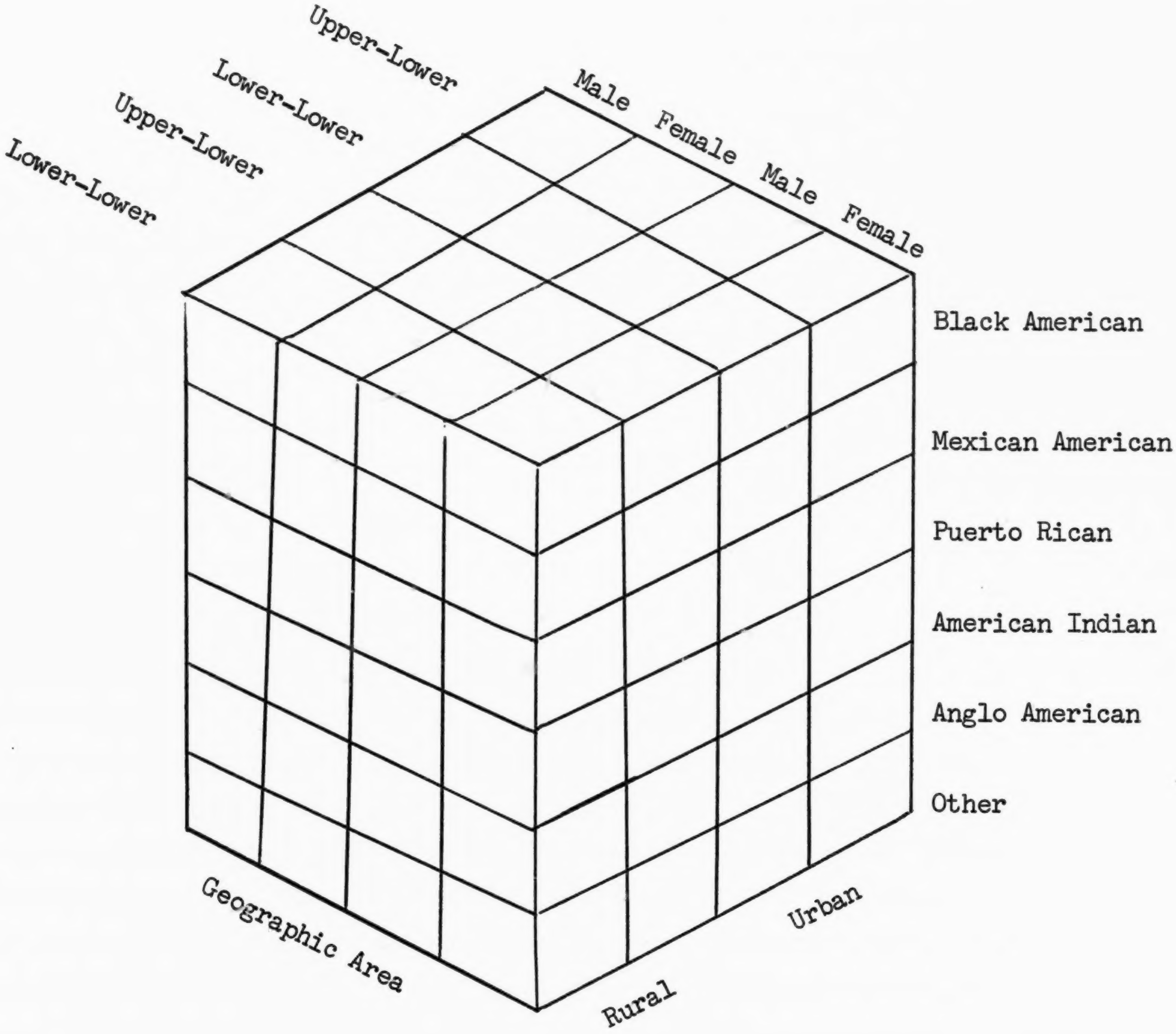
Upper-Lower
Lower-Lower
Upper-Lower
Lower-Lower
Male
Female
Male
Female
Black American
Mexican American
Puerto Rican
American Indian
Anglo American
Other
Geographic Area
Rural
Urban

Fig. 1--Subpopulation Matrix. Comprised of Five Dimensions: Cultural Group, Rural or Urban Locale, Geographic Area, Social Class and Sex.

under $3,000 in 1966, the proportion with female heads was forty-two percent for blacks but only twenty-three percent for whites.[9] As one could anticipate, the disadvantaged black family has therefore been described as an unstable matriarchy adapting to conditions imposed by society.[10]

The Mexican Americans in the United States came from a traditional, isolated, agrarian (patron-peon) economy. In the patron-peon system, much like the lord and vassal relationship of the Middle Ages, the peon labors on the farm in return for the patron assuming the responsibility for the physical, political, and economic welfare of the peon and his family. This pattern is rapidly dissolving and the Mexican Americans are having to move to find work, but the underlying cultural values remain. The people are present-oriented, dislike personal competition, and rarely take the initiative in a problem situation. In searching for complete economic and political security they tend to be blindly loyal to leaders with whom they identify.[11] The cohesive paternalistic family including a number of godparents and other non-blood relatives must be abandoned when the Mexican Americans move to cities or to seasonal crop farms in search of work. Not only is language a barrier, but because of the father's lack of skill he often is unable to get a job in the city. The wife, however, can usually find work. With the wife working and the father unemployed there are drastic role changes. Living in a new culture thus causes considerable stress in the family.[12]

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[9] O. Kerner, Report of the National Advisory Commission on Civil Disorders (New York: Bantam Books, 1968).

[10] J. Bernard, Marriage and Family Among Negroes (Englewood Cliffs, N.J., Prentice-Hall, 1966).

[11] C. Knowlton, "Patron-peon Pattern Among the Spanish Americans of New Mexico," S.W. Webster (Ed.), The Disadvantaged Child: Knowing, Understanding and Educating (San Francisco: Chandler, 1966), pp. 118-126.

[12] B. Valdez, "Implications of Spanish-American Culture on Family Life," (Unpublished paper, Disadvantaged Document ED002629, ERIC, U.S. Dept. of H.E.W.).

The Puerto Ricans come from an agricultural background similar to the Mexican Americans; however, in addition to a shift from a rural to an urban society and language difficulties, they are burdened with differences in racial identity. The codification of racial criteria in social structure of Latin America differs considerably from that in the United States. Among the Puerto Ricans, racial characteristics range from completely caucasoid to completely Negroid. Every Puerto Rican is aware of his position based on the color of his skin, but in Puerto Rico intermingling of people of different color and racial characteristics is common. In the United States the social structure concerning race is split into a black and white dichotomy while in Puerto Rico it is divided into three categories: black, intermediate, and white. The large number of Puerto Ricans in the intermediate group resent the Americans' assumptions about racial identity. This is among the sources of real conflict for Puerto Ricans who come to the United States.[13]

The social character and values of American Indian societies fostered the preservation of the status quo and the belief in external supernatural forces determining one's fate. An Indian family, even today, accumulating substantially more wealth than other members of the tribe is considered greedy. Tribal sharing and generosity have laid the foundation for a socialist society lacking entrepreneurial incentives. Aspects of the cultural traditions among the American Indians, therefore, make it difficult for them to function in American society.[14]

Other factors related to these and other cultural groups are certainly pertinent, but this is not intended to be an inclusive list. The validity of the dimension as a differentiating variable is clearcut.

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[13] E.S. Bonilla, "Social Structure and Race Relations," S.W. Webster (Ed.), The Disadvantaged Learner: Knowing, Understanding and Education (San Francisco: Chandler, 1966), pp. 104-117.

[14] G.D. Spindler and L.S. Spindler, "American Indian Personality Types and Their Sociocultural Roots," S.W. Webster (Ed.), The Disadvantaged Learner: Knowing, Understanding and Educating (San Francisco: Chandler, 1966), pp. 89-103.

Rural or Urban Locale. Rural or urban locale is included in the model for obvious reasons, some of which have been mentioned. Disadvantaged children from rural backgrounds show significant differences in school learning skills from their urban peers. Urban arbitrarily refers in our model to persons living in a place of 2,500 inhabitants or more, incorporated as cities, towns, boroughs and villages, or in diversely settled urban fringes around cities of 50,000 or more. The remainder of the population is classified as rural. The dichotomous definition of locale does not adequately describe the reality of a rural-urban continuum; rationales for other splits can undoubtedly be made.

Geographic Area. It seems that geographic area can be defined in terms as fine or as gross as one wishes. The problem stems from the fact that one set of variables does not apply equally well to all subgroups. For example, the North/South split may serve adequately in interaction with other dimensions to describe significantly different subpopulations of black Americans but the notion is inadequate for Mexican Americans or for Anglo-Americans. For the purpose of a general model, however, geographic differences seem pertinent enough to be given careful consideration.

Social Class. Although social class has been investigated for years no generally accepted definition or measurement has been developed. The various interpretations include a way of life, power over resources and people, reputation and esteem or a combination of objective properties including occupation, education and residence.[15] Hoffman and Lippitt reviewed the various concepts of social class;[16] Marx described it as man's relationship to the means of production;[17] Veblen considered consumption patterns the main indicator of social class;[18] Warner and Lunt defined social class in reference to other people's judgment of the families' prestige and esteem;[19] and Center suggested that an individual's self-judgment defined social class.[20] Hollinshead and Redlich modified an objective scale,[21] which was based on family properties developed by Warner, Meeker, and Eells.[22] Hollinshead's Index of Social Position used a weighted criteria of occupation of family head (weighted 9), residence (weighted 6), and education of family head (weighted 5) to identify five social class categories. Regardless of the social class index used, it may need to be further developed on the lower end of the scale since the model is focused on lower class.

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[15] B. Barber, Social Stratification (New York: Harcourt, Brace & Co., 1957).

The typological distinction has been made in the model between upper-lower and lower-lower class. This division of the lower class has been found in every major community study reflecting differences in "material well being, occupational, and educational opportunities, degree of personal and family stability, self and community perceptions, and integration with the larger society."[23] The lower-lower class has been characterized as suspicious, distrustful, uncertain of the future, and concerned with immediate gratification.[24] Children from the lower-lower class have been described as having difficulty forming words, quietly obedient, poorly nourished, and completely lacking confidence in their ability to master a problem.[25] The upper-lower class in contrast are semi-skilled or skilled workers with modest means who are described as hardworking, taxpaying, and family oriented. The ideal is high school graduation, but the norm is dropping out of school at sixteen. More secure economically than the lower-lower class, the upper-lower class are less secure morally or psychologically due to the pervasive anxiety about status and respectability among its members.[26] Upper-lower class children have more contact with both the mother and father, and the children tend to be more verbal than lower-lower class children.[27]

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[16] L.W. Hoffman and R. Lippitt, "The Measurement of Family Life Variables," P. Mussen (Ed.), Handbook of Research Methods in Child Development (New York: Wiley, 1960), pp. 945-1005.

[17] K. Marx, Capital (Chicago: Kerr, 1909).

[18] T. Veblen, The Theory of the Leisure Class (New York: Huebsch, 1918).

[19] W.L. Warner and P.S. Lunt, The Social Life of a Modern Community (New Haven: Yale University Press, 1941), Vol. I.

[20] R.T. Centers, The Psychology of Social Classes (Princeton: Princeton University Press, 1949).

[21] A.B. Hollinshead and C.F. Redlich, Social Class and Mental Illness: Community Study (New York: Wiley, 1958).

[22] W.L. Warner, M. Meeker and K. Eells, Social Class in America (Chicago: Science Research Associates, 1949).

The split between upper-lower and lower-lower class characteristics is not to deny lower class commonalities. The following is a modification of Keller's characteristics of lower class life: (a) low community status and having to purchase on credit, (b) economic potential highest in youth, (c) residence in less desirable neighborhoods in inadequate dwellings, (d) little participation in formal organizations, (e) high proportion of disadvantaged in cultural minority groups.

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[23] S. Keller, The American Lower Class Family (Albany, N.Y., New York State Division for Youth, 1966).

[24] Ibid.

[25] E. Pavenstedt, "A Comparison of the Childrearing Environment of Upper-lower and Lower-lower Class Families," American Journal of Orthopsychiatry (1965), 35, 89-98.

[26] S. Keller, The American Lower Class Family (Albany, N.Y., New York State Division for Youth, 1966).

[27] E. Pavenstedt, "A Comparison of the Childrearing Environment of Upper-lower and Lower-lower Class Families," American Journal of Orthopsychiatry (1965), 35, 89-98.

Sex Differences. The sex of the child is included in the subpopulation matrix of the model because male and female roles in the lower class are more clearly distinguished than in the middle class.[28] Also, sex differences have been demonstrated in school learning skills such as arithmetic reasoning, spatial orientation, perceptual speed, accuracy, memory, numerical computation, and verbal fluency.[29]

Psycho-educational Dimensions. Selected on the basis of their significance for influencing school learning and being shaped by the environment the psycho-educational dimensions have been identified as: (1) general intelligence, (2) language skill, (3) conceptual ability, (5) motivation, and (6) self-concept. According to the model these dimensions will be measured and profiled for subpopulations of the disadvantaged.

General Intelligence. General intelligence is the most comprehensive of the psycho-educational dimensions of the model. As it is used in the model, intelligence is a multifactor construct derived from a set of measurement operations to designate levels of mental functioning.[30] Because of the long standing interest among psychologists and educators in the measurement of intelligence, there is substantially more research available on general intelligence than the five other psycho-educational dimensions of the model.

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[28] J. Kagan, "Acquisition and Significance of Sex Typing and Sex Role Identification," M.L. Hoffman and L.W. Hoffman (Eds.), Review of Child Development Research (New York: Russell Sage Foundation, 1964), Vol. I, 137-163.

[29] A. Anastasi, Differential Psychology (New York: Macmillan, 1958).

[30] D.P. Ausubel, Theory and Problems of Child Development (New York: Grune and Stratton, 1958).

The development of general intelligence is a complicated process and recently many of the established tenets are being reexamined. Hunt's provocative book Intelligence and Experience rejects the old assumptions of fixed intelligence and predetermined development.[31] The crucial role of early experience is emphasized and he indicates that going up the phylogenetic scale increases the importance of the early environment. The differential experiences of a cultural group, rural or urban locale, social class, and sex, as outlined in the subpopulation matrix, have profound effects on children's intelligence.

Lesser, Fifer, and Clark's comprehensive study of mental abilities of children from different social class and cultural groups is most pertinent here.[32] In their study 320 first grade children from Jewish, Black-American, Puerto Rican, and Chinese backgrounds were divided into middle and lower class groups based on the occupation and education of the head of the household and the type of dwelling. The results suggested subcultural differences in both the absolute level of each mental ability (including verbal ability, reasoning, numerical facility, and space conceptualization) and the patterns among these abilities. Social class and ethnicity interact to affect the absolute level of each mental ability, but not the pattern among these abilities. Their findings suggested that Jewish children were superior in verbal ability and black children were relatively inferior on spatial and numerical tasks and average on verbal ability. The Puerto Ricans were weakest of the four on verbal quality, while the Chinese children in the sample scored highest on spatial conceptualization. This study has been replicated in Boston with duplicate results for ethnic groups comparable to the original New York sample.[33] The results then would seem to be unequivocal that various cultural groups foster the development of different patterns of mental abilities.

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[31] J. McV. Hunt, Intelligence and Experience (New York: Ronald Press, 1961).

[32] G. S. Lesser, G. Fifer and D. Clark, "Mental Abilities of Children from Different Social-class and Cultural Groups," Monographs of the Society for Research in Child Development (1965), 30.

Two particular generalizations should be made concerning the performance of black children on intelligence tests. Black children score lower than white children and as the black child gets older his measured intelligence decreases. Deutsch and Brown examined the scores of 543 urban school children stratified by race, social class, and grade level on the Lorge-Thorndike intelligence test.[34] They found that black children scored lower than white children regardless of social class. As a result of the cumulative effects of deprivation, the trend of the low I.Q.'s for black children intensified over time. Other researchers have also found this phenomena among black children. In a study of 1800 black elementary school children, there was a negative correlation between age and I.Q.; at five years old the mean I.Q. was 86, while at thirteen the mean I.Q. was 65.[35] Osborne, in a longitudinal study of racial differences and school achievement, obtained similar results.[36] There was two years difference in mental ability at grade six and four years difference at grade ten between white and black children. Finally, fitting into the developmental picture, the intelligence difference between black and white infants was shown to be less than when the children grow older.[37]

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[33] S.S. Stodolsky and G. Lesser, "Learning Patterns in the Disadvantaged," Harvard Educational Review (1967), 37, 546-593.

[34] M. Deutsch and B. Brown, "Social Influences in Negro-white Intelligence Differences," Journal of Social Issues (1964), 20:24-35.

[35] W.A. Kennedy, V. Vernon, and J. White, "A Normative Sample of Intelligence and Achievement of Negro Elementary School Children in the Southeastern United States," Monographs of the Society for Research in Child Development (1963), 28(b).

[36] R.T. Osborne, "Racial Differences in Mental Growth and School Achievement: A Longitudinal Study," Psychological Reports (1960), 7:233-239.

A number of researchers have attempted to provide a tenable basis for these differences. Klineberg in an analysis of the problem reaffirmed the lack of evidence to support the contention that genetic differences exist between black and white children.[38] Not nearly enough is known about the influence of heredity, but the evidence points clearly in the direction of environmental causation. Two ways in which the environment of the black child can lower his measured intelligence have been suggested: first "it can act to deter his actual intellectual development by presenting him with such a constricted encounter with the world that his innate potential is barely tapped," and secondly "it can act to mask his actual functioning intelligence in the test situation by not preparing him culturally and motivationally for such a task."[39]

Mexican American children, along with Puerto Ricans and Orientals, often learn English as a second language. As might be expected, they perform poorly on verbal items. Information from a recent descriptive report of Head Start children's performance on the Stanford-Binet indicated that children in the rural south or from non-English speaking groups (Mexican Americans, Puerto Ricans, and Indians) did less well than other disadvantaged groups.[40] In one of the few studies specifically on the intelligence of Mexican American children, Jensen found that lower I.Q. Anglo-American children were poorer learners than their Mexican American counterparts.[41] Intelligence tests predicted immediate recall, serial learning, and paired-association learning of familiar and abstract objects quite well in the Anglo-American group, but not among the Mexican American children.

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[37] R. M. Dregor and K.S. Miller, "Comparative Psychological Studies of Negroes and Whites in the United States," Psychological Bulletin (1960), 57, 361-402.

[38] O. Klineberg, "Negro-white Differences in Intelligence Test Performance: A New Look at an Old Problem," American Psychologist (1963), 18:193-203.

[39] T. Pettigrew, "Negro American Intelligence: A New Look at an Old Controversy," Journal of Negro Education (1964), 33:6-25.

In a study of the effects of bilingualism upon intelligence test performance, Anastasi reported 176 Puerto Rican children as a group to have fallen considerably below the test norms on the Cattell Culture Free Intelligence Test even though the test was administered in both English and Spanish.[42] This work is supported by Lesser, Fifer, and Clark, who also found Puerto Rican children weak in verbal ability.[43]

The concern for culture free testing is a key issue in any proposed effort in this area, but researchers are moving toward better measures of the nature of children's abilities based on and couched within their own cultural milieus. As

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[40] M.G. Cline and A.S. Dryer, "Establishment of Regional Head Start Research and Evaluation Centers--A Descriptive Report of the Evaluation Design, Population and Program Characteristics and Pre-test Data of the Full Year 1967 Evaluation of Project Head Start," (Office of Economic Opportunity, 1968).

[41] A.R. Jensen, "Learning Abilities of Mexican-American and Anglo-American Children," California Journal of Educational Research (1961), 12, 147-159.

[42] A. Anastasi and F.A. Cordova, "Some Effects of Bilingualism upon the Intelligence Test Performance of Puerto Rican Children in New York City," Journal of Educational Psychology (1953), 44:1-19.

[43] G.S. Lesser, G. Fifer and D. Clark, "Mental Abilities of Children from Different Social-class and Cultural Groups," Monographs of the Society for Research in Child Development (1965), 30.

Stodolsky and Lesser point out

> ...the ability (aptitude) versus achievement distinction has been attenuated. Intelligence tests must now be thought of as samples of learning based on general experiences. A child's score may be thought of as an indication of the richness of the milieu in which he functions and the extent to which he has been able to profit from that milieu.[44]

Generalizing research results to Indian children, for example, has many of the pitfalls of broad statements about characteristics of disadvantaged children. There are wide variations in the cultural patterns of different tribes ranging from the Hopi of the Southwest to the Seminole of Florida. Research dealing with Sioux, Hopi, Zuni, Zia, Navaho, and Papago Indian children's performance on the Goodenough Draw-A-Man Test shows no inferiority to white norms, but it has also been demonstrated on the Goodenough Draw-A-Man Test that Indian boys do significantly better than girls; this was partially accounted for by the fact that graphic art is traditionally a masculine interest among the Indians.[45] Klineberg in a study of 120 Yakima Indian children and 110 white children on the Pinter-Patterson series found a "qualitative" rather than a "quantitative" difference in the behavior of the two groups. The white children were quicker but the Indian children made fewer errors.[46] Though speed is a salient characteristic of American life it has not penetrated the sub-cultural patterns of many groups. The results of work by Spellman using a Color-Form, Size reference measure reinforces these findings.

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[44] S.S. Stodolsky and G. Lesser, "Learning Patterns in the Disadvantaged," Harvard Educational Review (1967), 37:546-593.

[45] W. Dennis, "The Performance of Hopi Children on the Goodenough Draw-A-Man Test," Journal of Comparative Psychology (1942), 34: 341-348. R.J. Havighurst, M.K. Gunther and I.E. Pratt, "Environment and the Draw-A-Man Test: The Performance of Indian Children," Journal of Abnormal and Social Psychology (1946), 41: 50-63.

[46] O. Klineberg, "Racial Differences in Speed and Accuracy," Journal of Abnormal and Social Psychology (1927), 22:273-277.

Studies of the mental abilities of Japanese and Chinese American children have shown that they do less well on the verbal parts of intelligence tests as a result of bilingualism, but they excel in acuity of visual perception, recall, spatial relation, and in spatial conceptualization. This to some degree has been attributed to cultural patterns among oriental groups stressing art and handicrafts.[47]

Attempts to separate rural and urban factors relating to differences of intelligence in children are somewhat less than clear. Three ideas draw substantial support: (a) rural children tend to have lower measured intelligence scores, especially on tests which require speed and have many verbal items, (b) the more isolated the rural child, the lower his intelligence score will be, and (c) the intelligence test score does not necessarily reflect the rural child's learning ability.

Comparatively lower scores, especially on group intelligence tests, have characterized the performances of rural children.[48] Taking a closer book at the problem, Sherman used a battery of nine tests including the Stanford-Binet, Goodenough's Draw-A-Man Test, the Knox Cube Test, and the Pinter Cunningham Primary Mental Test and found the more isolated the community from which rural children were drawn, the lower the scores on the intelligence tests.[49] He also noted that the children's scores were somewhat higher on tests when the tempo was the slowest. In addition, Shepard's study of non-verbal abilities of matched rural and urban children showed that rural children were superior in mechanical ability while the urban children scored highest on the verbal ability and tests requiring speed. The author concluded that "the environmental milieu (sic) in which a child is reared may influence the development of certain skills, abilities, and fields of knowledge most significant and valuable for those living in that specific geographic or source area."[50] Lower performance of rural children is not an immutable situation. Boger studied the effects of perceptual training on the intelligence test scores of rural elementary school children. He concluded that the extent of improvement on the intelligence test scores as a result of training indicates that scores from intelligence tests are not representative of rural children's actual ability.[51] Furthermore, Wheeler's studies of 3,252 East Tennessee mountain children indicated a promising trend that through the improvement of the economic, social, and educational status of the mountain area between 1930 and 1940, an average I.Q. gain of ten points resulted among the school children.[52] As a final note, Anastasi on the basis of research suggested that the rural-urban test performance gap is shrinking.[53] This change may partly be the result of population shifts and partly from major improvements in rural living. The specific factors may be the gradual change in farms with the replacement of farm laborers by machinery as well as the substantial increase in facilities for education, communication, and transportation available to the rural population.

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[47] M.L. Darsie, "Mental Capacity of American-born Japanese Children," Comparative Psychology Monograph (1926), 15. G.S. Lesser, G. Fifer and D. Clark, "Mental Abilities of Children from Different Social-class and Cultural Groups," Monographs of the Society for Research in Child Development (1965), 30.

[48] I.J. Lehmann, "Rural-urban Differences in Intelligence," Journal of Educational Research (1959), 53:62-68.

[49] M. Sherman and C.B. Kay, "The Intelligence of Isolated Mountain Children," A. Anastasi (Ed.), Perspectives in Psychology (New York: Wiley, 1965), 195-201.

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[50] E.L. Shepard, "Measurement of Certain Nonverbal Abilities of Urban and Rural Children," Journal of Educational Psychology (1942), 33:458-462.

[51] J.H. Boger, "An Experimental Study of the Effects of Perceptual Training on Group IQ Scores of Elementary Pupils in Rural Upgraded Schools," Journal of Educational Research (1952), 46:43-53.

[52] L.R. Wheeler, "The Intelligence of East Tennessee Mountain Children," Journal of Educational Psychology (1932), 23:351-370. L.R. Wheeler, "A Comparative Study of Intelligence of East Tennessee Mountain Children," Journal of Educational Psychology (1942), 33:321-334.

[53] A. Anastasi, Differential Psychology (New York: Macmillan, 1958).

The intelligence test scores of lower class children have been established by many researchers as lower than those of middle class children.[54] On the average the test score difference is about twenty points regardless of the social class index used. Recently, however, there have been some pertinent findings about lower class and its effect on intelligence.[55] The cumulative deficit hypothesis and the relationship between intelligence and learning ability emphasize the profound effect of verbal learning on intelligence in lower class children. Under conditions of environmental deprivation, as often exist in the lower class, the child's measured intelligence declines over time. This trend in intellectual ability has been used to support the cumulative deficit hypothesis. Children from disadvantaged homes who had low I.Q. scores in first grade had lower I.Q. scores when they were retested in fifth grade. They had missed the basic learning skills, particularly verbal skills, which were necessary for transition from one learning level to the next; and instead of cumulative learning they suffered from a cumulative deficit. Jensen took a closer look at the differences in learning ability among slow learners five to ten years old in different socio-economic and cultural groups. He found that in "culturally non-deprived children, there is a good correlation between learning ability and IQ, measured by standard tests. In culturally deprived children, IQ tells little about learning ability of the nonverbally mediated variety. Deprived children seem to be 'normal' in

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[54] V.P. John, "The Intellectual Development of Slum Children: Some Preliminary Findings," American Journal of Orthopsychiatry (1963), 33:813-822. H.E. Jones, "The Environment and Mental Development," L. Carmichael (Ed.), Manual of Child Psychology (2nd Ed., New York: Wiley, 1954), 631-696.

[55] M. Deutsch and B. Brown, "Social Influences in Negro-white Intelligence Differences," Journal of Social Issues (1964), 20:24-35. G.G. Wiener, R.V. Rider and W. Oppel, "Some Correlates of IQ Change in Children," Child Development (1963), 34(1), 61-67.

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learning ability, but have failed to learn the verbal mediators that facilitate school learning."[56] Jensen's findings, concerning the learning ability of lower class children not being reflected in an intelligence test, corresponded to his findings on Mexican American children[57] and Boger's conclusions about the intelligence performance of rural children referred to previously.[58]

Sex differences in mental abilities, with the exception of verbal fluency favored in girls, are less evident at the younger age levels. It seems reasonable that the differences that appear later are for the most part culturally determined.[59]

In summary, the subpopulations interactively impinge on the development of children's mental abilities. Although there are similarities, disadvantaged children from each ethnocultural group which has a semblance of a homogeneous life style fosters the development of specific mental qualities. Rural locale and lower class tend to be associated with lower test scores particularly on verbal subtests and tests requiring speed. If the performance of a lower class child on an intelligence measure was poor in the first grade, then it is very likely that the child's measured intelligence will be even lower on future tests.

Language Skill. The close relationship of language skill and learning ability is common knowledge. Language skill, as used in this model and as generally conceived in preschool work, is, of course, more than that measured on the verbal section of an intelligence test. As used in the model, language skill is a socially conditioned set of communication variables such as phonetic structure, syntactic structure, and complexity. In addition, it should be recognized that there is both a covert and overt dimension to language and that perceptual and conceptual abilities as well as intelligence are reflected in language skill.

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[56] A.R. Jensen, "The Role of Verbal Mediation in Learning as a Function of Age and Cultural Background," Research Relating to Children (U.S. Dept. of H.E.W., Welfare Administration, Washington: U.S. Government Printing Office, 1962), No. 15.

[57] A.R. Jensen, "Learning Abilities of Mexican-American and Anglo-American Children," California Journal of Educational Research (1961), 12, 147-159.

[58] J.H. Boger, "An Experimental Study of the Effects of Perceptual Training on Group IQ Scores of Elementary Pupils in Rural Upgraded Schools," Journal of Educational Research (1952), 46:43-53.

[59] D.P. Ausubel, "Theory and Problems of Child Development" (New York: Grune and Stratton, 1958).

Learning one language in the family and another at school is a problem faced by many disadvantaged children from non-English speaking cultural groups (Mexican American, Puerto Rican, and Indian). This linguistic bifurcation among the disadvantaged tends to have a negative influence on the child's skill in both languages.

Lower class children have been described as having various kinds of language related problems. Some of Deutsch's initial postulations that children from a noisy environment in which directed and sustained speech stimulation are rare would be deficient in the recognition of speech sounds and would have difficulty in skills which required auditory discrimination, such as reading, have been extensively supported.[60] Other findings indicate that lower class children are poorer readers and also have poor auditory discrimination. Language development and use have a universal sequence: listening, speaking, reading and writing.[61] Therefore, in view of the deficiency caused by poor auditory skill in the foundation of language development, the number of communication difficulties among lower class children is not unexpected. Milner investigated the background of black children who scored low on a reading readiness test.[62] These children were predominantly from lower class homes where there were few books and little interaction between parents and children. Lower class children used fewer words, nonstandard English, and short, less complex sentences. Figurel found, for instance, the vocabulary of a disadvantaged child is significantly less than that of the middle class child and that the disadvantaged often use nonstandard English.[63] Thomas investigated the sentence development and vocabulary usage of lower class children and found that lower class children use fewer words in sentences and failed twenty to fifty percent of the vocabulary from five word lists recommended for the primary grades.[64]

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[60] Martin Deutsch, "Facilitating Development in the Pre-school Child: Social and Psychological Perspectives," Merrill-Palmer Quarterly, (1964), 10(3), 249-263.

[61] E.S. Newton, "Planning for the Language Development of Disadvantaged Children and Youth," Journal of Negro Education (1964), 33:264-274.

[62] E. Milner, "A Study of the Relationship between Reading Readiness in Grade One School Children and Patterns of Parent Child Interaction," Child Development (1951), 22, 96-112.

The relationship between language and conceptual ability in lower class children has been investigated by many researchers. Bernstein identified the quality of the language used in the home with social class.[65] He identified two linguistic codes, restricted and elaborated. Restricted codes are simple, short, condensed and lack specificity, while elaborated codes are grammatically more complex and pertain to a particular situation. The middle class child is able to use both forms, but the lower class child is generally limited to restricted codes. For the disadvantaged child this means that he is isolated linguistically and perhaps conceptually from the cultural mainstream. Delay in the acquisition of certain formal language forms (elaborated code) makes it difficult for children to move from concrete to abstract thought.[66] Deutsch, studying the relationship between socio-economic status, race, grade level, and language variables, found deficiencies based on race and class for measures of abstract and categorical use of language as distinguished from denotation and labeling.[67] (Supporting the cumulative deficit hypothesis, language deficits identified at first grade were more serious at fifth grade.) Assuming that children test their notions about words primarily through interaction with more mature speakers, John and Goldstein suggested that the amount of interaction varies from one social class to another and that the shift from labeling to categorizing also varies with the social class.[68] The results of their study indicated that lower class children had a limited scope of verbal interaction in the home, were deficient in language development, and were impeded in their ability to categorize in terms of explicit statements of concepts.

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[63] J.A. Figurel, "Limitations in the Vocabulary of Disadvantaged Children: A Cause of Poor Reading," Improvement of Reading Through Classroom Practice (Newark, Del.: International Reading Association, 1964), 9:160-175.

[64] D.R. Thomas, "Oral Language, Sentence Structure and Vocabulary of Kindergarten Children Living in Low Socio-economic Urban Areas," Dissertation Abstracts (1962), 23, 104(3).

[65] B. Bernstein, "Elaborated and Restricted Codes: Their Social Origins and Some Consequences," American Anthropologist (1964), 66:1-34.

The descriptions of specific language skill deficits for the "disadvantages" as a group are becoming known; however, the dearth of information concerning the etiology of specific problems for specific subcultural groups remains a distinct stumbling block to meaningful intervention.

Conceptual Ability. Conceptual ability is used here in a broad sense referring to skill in organizing and reducing the ambiguity and imprecision of the environment impinging on the senses. The individual acquires concepts through a complex learning process which is reciprocal between the individual and the environment.

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[66] D.P. Ausubel, "How Reversible Are the Cognitive and Motivational Effects of Cultural Deprivation?" Urban Education (1964), 1:16-38.

[67] M. Deutsch, "The Role of Social Class in Language Development and Cognition," American Journal of Orthopsychiatry (1965), 35:78-88.

[68] V.P. John and L.S. Goldstein, "The Social Context of Language Acquisition," Merrill-Palmer Quarterly (1964), 10(3), 265-275.

> Environmental sensations stimulate the person and various sensations eventually become intensified, named, and organized. Through his increased ability to discriminate and to generalize he develops schemata. In so doing, the individual becomes increasingly emancipated from the perceptual and sensory aspects of the environment and is able to approach it in a conceptual way.[69]

The ability to use concepts by thinking of problems in terms of symbols and classes is seen by Bruner as the initial step in efficient learning, followed by searching for a solution, taking the initiative to solve the problem, and persisting when the problem is difficult.[70]

It is also apparent that conceptual thinking is required for such basic school learning tasks as generalizing, transferring learning, and reading. Obviously, conceptual ability is an essential psycho-educational dimension to include in any profile of learning predictions and the specific aspects of conceptual ability might be level of abstraction and cognitive style.

Level of differentiation and abstraction refers to gross differences in the development of concepts. Cognitive style according to Kagan, Moss and Sigel is a term which refers to the "stable individual performances in mode of perceptual organization and conceptual categorization of the external environment."[71] Level of abstraction, although important, does not account for the cognitive variation of children at the same age with similar I.Q.'s according to Kagan and others. In addition, the concepts a child acquires are affected by the predisposition he shows to attend to particular features of the environment.[72] It is presumed that this predisposition of cognitive style will influence the kind of content a child will employ in evolving his concepts.[73]

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[69] I.E. Sigel, "The Attainment of Concepts," M.L. Hoffman and L.W. Hoffman, Review of Child Development Research (New York: Russell Sage Foundation, 1964), Vol. I, 209-248.

[70] J. Bruner, "Learning about Learning: A Conference Report," Cooperative Research Monograph (1966), No. 15.

[71] J. Kagan, H.A. Moss, and I.E. Sigel, "Psychological Significance of Styles of Conceptualization," Monographs of the Society of Research in Child Development (1963), 28, 73-112.

Kagan has explored the cognitive implications of impulsive cognitive style in lower class children. He suggested that reflective cognitive style is necessary for analytical thinking.[74] The child must reflect on alternatives and analyze visual stimuli (delay discrimination) to function analytically. The impairments of disadvantaged children may arise from the lack of opportunities to develop reflective attitudes. In empirical studies Kagan has demonstrated that impulsivity in contrast to reflectivity is associated with errors in reading and inductive reasoning tasks.[75]

The ability to transform the concrete to symbolic terms is basic for conceptual thought. Disadvantaged children, because of a tendency to think in concrete terms, have a limited ability to make accurate generalizations from specifics and in transferring knowledge from one situation to another.[76]

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[72] H.F. Harlow, "Learning Set an Error Factor Theory," S. Koch (Ed.), Psychology: A Study of a Science (New York: McGraw-Hill, 1959), Vol. II.

[73] J. Kagan, H.A. Moss, and I.E. Sigel, "Psychological Significance of Styles of Conceptualization," Monographs of the Society of Research in Child Development (1963), 28, 73-112.

[74] J. Kagan, "Information Processing in the Child: Significance of Analytic and Reflective Attitudes," Psychological Monographs (1964), 78.

[75] J. Kagan, "Reflective-impulsivity and Reading Ability in Primary Grade Children," Child Development (1965), 36:309-628. J. Kagan, L. Pearson and L. Welch, "Conceptual Impulsivity Inductive Reasoning," Child Development (1966), 37:584-594(b).

[76] E.W. Gordon, "Counseling Socially Disadvantaged Children," F. Riessman, J. Cohen and A. Pearl (Eds.), Mental Health of the Poor (New York: Free Press of Glencoe, 1964), 275-282.

Also, differences have been found in the level of abstractness of cognitive style. Lower class children categorized pictures on the basis of concrete functional relationships while middle class children classified objects on the basis of abstracted common physical attributes. Even more significant was that lower class children were less able to classify the pictures of objects than the actual objects. The authors concluded that the lower class children had not yet acquired adequate representation of familiar objects.[77]

The most significant information, however, again would reflect the idiosyncracies of various ethnocultural groups of disadvantaged children in the nature and etiology of specific deficits. Sigel has completed much of his work with black children and finds differences between disadvantaged white and black kindergarten children in ability to classify pictorial representations. Suchman and Trebasso's work and more recent work by Spellman further open Pandora's box in the area by showing distinct differences in color from size preference in preschool children from varying ethnocultural backgrounds.[78] Little is known, however, about the etiology of these differences.

Perceptual Ability. Perception refers to the relationship between man and his environment and is conceptually between the sensations of classical psycho-physics and cognitive processes which are often under the rubric of concept development.[79] Perceptual ability is a term indicating the degree of skill necessary to assign meaning to various previously undefined sensory experiences. Sense experiences included in the model under perceptual ability depend on the scope of the project, but from the research reviewed on the disadvantaged auditory, visual, tactile, and kinesthetic abilities should be measured.

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[77] I.E. Sigel, L.M. Anderson and H. Shapiro, "Categorization Behavior of Lower and Middle Class Negro Preschool Children: Differences Dealing with Representation of Familiar Objects," Journal of Negro Education (1966), 35 (3), 218-229.

[78] C.M. Spellman, "Stimulus Preference Among Children of Different Ethnic Backgrounds," E.G. Willerman, V.S. Newton, and D.E. Bussis (Eds.), A Digest of Research Activities of Regional Evaluation and Research Centers for Project Head Start (Washington: Office of Economic Opportunity, 1968), 8.

[79] J. Gould and W.L. Kolb (Eds.), A Dictionary of the Social Sciences (New York: Free Press of Glencoe, 1964), 492.

The implications of perceptual ability for learning are clearly indicated by many researchers. Katz's findings indicated that inadequate auditory and visual discrimination are significantly associated with reading retardation.[80] Deutsch found that lower class children were inattentive to auditory stimuli and were, consequently, poor in auditory discrimination and reading skill.[81] Poor auditory discrimination has also been associated with negative effects on articulation.[82]

As with language skill and conceptual ability, comparable data on perceptual ability is lacking for children from disadvantaged cultural groups. Recent investigations indicated that there are significant differences among the disadvantaged cultural groups in visual perception,[83] and that children from various cultural backgrounds have characteristic stimulus preference.[84]

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[80] P.A. Katz, "Verbal Discrimination Performance of Disadvantaged Children: Stimulus and Response Variables," Child Development (1967), 38:288-342.

[81] C.P. Deutsch, "Auditory Discrimination and Learning: Social Factors," Merrill-Palmer Quarterly (1964), 10:277-296.

[82] D. Christine and C. Christine, "The Relationship of Auditory Discrimination to Articulatory Defects and Reading Retardation," Elementary School Journal (1964), 65:97-100.

[83] D. Dennis, "A Study of Visual Perception as Related to Cultural Deprivation: (unpublished paper, E. Grotberg (Ed.), background paper on research, February 14, 1968, Office of Economic Opportunity).

[84] C.M. Spellman, "Stimulus Preference Among Children of Different Ethnic Backgrounds," E.G. Willerman, V.S. Newton and D.E. Bussis (Eds.), A Digest of Research Activities of Regional Evaluation and Research Centers for Project Head Start (Washington: Office of Economic Opportunity, 1968), 8.

The research available on lower class children reveals that a lack of sensory stimulation when the children are capable of responding rather than physical defects of eyes, ears, or brain, is responsible for many perceptual problems.[85] Lack of stimulus familiarity among lower class children was found to affect visual discrimination[86] and may account for the fact that disadvantaged children had not acquired adequate representations of familiar objects to classify consistently the pictures of objects and the objects themselves.[87] Again, however, adequate profiling of differences for the inclusive ethnocultural groups known to be represented in the population of disadvantaged children is lacking.

Motivation. Although the potential for motivation may be innate, Ballif points out that its direction and intensity appear to be learned within the environment and determined by social and psychological models and values existing in the home.[88] Currently, there is mounting support for the importance of motivation as an indispensable condition for learning. Motivation is the energizing of activity to fulfill needs. Kagan identified broad classes of needs that motivate the child's learning academic skills: (a) the desire for nurturance, praise, and recognition, (b) the desire to increase his perceived similarity to a model individual, and (c) the desire for competence and self-worth.[89]

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[85] A.R. Jensen, "Social Class and Perceptual Learning," Mental Hygiene (1966), 50:226-239. M. Deutsch, "The Disadvantaged Child and the Learning Process," A.H. Passow (ed.), Education in Depressed Areas (New York: Teacher College of Columbia University Bureau of Publications, 1963), 163-179.

[86] M.V. Covington, "Some Effects of Stimulus Familiarization on Discrimination" (unpublished doctoral dissertation, University of California, 1962), B. Bloom, A. Davis and R. Hess (Eds.), Compensatory Education for Cultural Deprivation (New York: Holt, Rinehart and Winston, 1965).

[87] I.E. Sigel, L.M. Anderson and H. Shapiro, "Categorization Behavior of Lower and Middle Class Negro Preschool Children: Differences Dealing with Representation of Familiar Objects," Journal of Negro Education (1966), 35(3), 218-229.

[88] B. Ballif, "Exploration of Motivation to Achieve in Preschool Children," Annual Report, 1966-67 (University of Hawaii Head Start Evaluation and Research Center, Office of Economic Opportunity), 55-69.

In terms of a model for profiling psycho-educational dimensions of children, at least two aspects of motivation, it would seem, should be included: achievement motivation and incentives for school tasks. Achievement motivation here defined as the need for achieving in situations which involve standards of excellence, namely school, while important information would also be obtained if incentives that effectively motivate various groups of disadvantaged children were identified.

Limited research has been conducted on achievement motivation, incentives for achievement, and motivation characteristics of lower class children.[90] Rosen found that achievement motivation was rare among lower class children. Research on incentives has indicated that lower class children learn better with material incentives such as money and candy than nonmaterial incentives when compared to middle class children.[91] Ausubel suggested the use of intrinsic motivation for learning, based retroactively on achievement, as more valid and longer lasting than extrinsic motivation (incentives) for disadvantaged children.[92] Disadvantaged children have typically been characterized by their teachers as lacking motivation for school tasks.[93] According to Ballif, disadvantaged children have little curiosity or interest and react without any indication of an inner commitment or comprehension.[94] They express self-devaluation attitudes toward achievement, lack of interest in accomplishment and have no discernible drive toward goals or completion of tasks. This deficiency of motivation to achieve is further complicated by motives to achieve goals which are inappropriate and inconsistent with successful achievement in school.

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[89] J. Kagan, "Motivational and Attitudinal Factors in Receptivity to Learning," J. Bruner (Ed.), "Learning about Learning: A Conference Report," Cooperative Research Monograph (1966), 15:34-40.

[90] B.C. Rosen, "The Achievement Syndrome: A Psychocultural Dimension of Social Stratification," American Sociology Review (1956), 21:203-211.

[91] S. Klugman, "The Effect of Money Incentives vs. Praise Upon the Reliability and Obtained Scores of the Revised Stanford-Binet Test," Journal of Genetic Psychology (1944), 30:255-267. G. Terrel, Jr., K. Durkin and M. Wiesley, "Social Class and the Nature of the Incentive in Discrimination Learning," Journal of Abnormal Social Psychology (1959), 59:270-272.

The fact that disadvantaged children have been shown to have generalizable motivational predisposition says nothing of what lies behind these predispositions to behave in certain ways. With differential environments influencing the development of motivation in subpopulations of the disadvantaged, it is likely that general statements about the motivation of disadvantaged children may be grossly inaccurate. Surely we have little on which to base intervention procedures for specific groups.

Self-Concept. The child develops a self-concept through personal and social experiences. Initially from people in the home, and later from teachers and others in society, the child develops an image of the kind of person he is. We are defining self-concept as an organized configuration of the perceptions of the self which are admissable to an awareness.

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[92] D.P. Ausubel and P. Ausubel, "Ego Development Among Segregated Negro Children," A.H. Passow (Ed.), Education in Depressed Areas (New York: Teachers College Columbia University Bureau of Publications, 1963), 109-141.

[93] S. Keller, The American Lower Class Family (Albany, N.Y., New York State Division for Youth, 1966).

[94] B. Ballif, "Exploration of Motivation to Achieve in Preschool Children," Annual Report, 1966-67 (University of Hawaii Head Start Evaluation and Research Center, Office of Economic Opportunity), 55-69.

A profiling of self-concept across subcultures is included in the model for obvious reasons. The child with a poor self-concept is less able to cope with his environment. He is less curious, more anxious and tends to have difficulty making adequate adjustments to social situations. An unfavorable self-concept has been shown to be related to low aspirations and academic failures.[95]

Disadvantaged children have been described by many investigators as having poor self-concepts.[96] The vast majority of the research on the self-concept of disadvantaged children has been done on black children. In the lower class black family, girls are often preferred to boys and lighter skinned children to darker skinned children. The problems of establishing sex role identity in the lower class black family, where female head families are not uncommon, probably contribute to the poor self-concept of many black males. In doll play and peer choice studies, the negative connotations of identifying with the black race are evident.[97] It is apparent that black children are often confused regarding their feelings about themselves and their group. Some of what has been said about the self-concept of the black disadvantaged child applies to other cultural groups among the disadvantaged, but little evidence would lead to overt generalization. The paternalistic authoritarianism present in the Mexican American subculture, for example, would imply a different process of self-depreciation in disadvantaged children than that documented so well for the black population.

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[95] K.T. Hill and S.B. Sarason, "A Further Longitudinal Study of the Relation of Test Anxiety and Defensiveness to Test and School Performance over Elementary School Years," Monograph of the Society for Research in Child Development (1966), 3, 1-76. T.B. Edwards and S.W. Webster, "Correlations and Effects of Ethnic Group Identification," Research Relating to Children (U.S. Dept. of H.E.W., Welfare Administration, Washington: U.S. Government Printing Office, 1963), No. 17.

[96] Cynthia P. Deutsch, "Education for Disadvantaged Groups," (Disadvantaged Document ED002109 ERIC, U.S. Dept. of H.E.W., April, 1965). W.C. Kvaraceus, Negro Self-concept: Implications for School and Citizenship (New York: McGraw-Hill, 1965).

[97] K.B. Clark and M.P. Clark, "Racial Identification and Preference in Negro Children," E. Maccoby, T. Newcomb and E. Hartly (Eds.), Readings in Social Psychology (New York: Holt, 1958), 60. H.W. Stevenson and E.C. Stewart, "A Developmental Study of Racial Awareness in Young Children," Child Development (1958), 29:399-409.

The Identification of Process Variables

The process influence of significant environments joins the remaining dimension of the descriptive model. Stodolsky and Lesser in discussing new directions for research in learning with the disadvantaged stress that the answer to the question, "What does it mean in psychological-process terms to be a member of a given social class or subcultural group?" must be more effectively sought.

The fundamental influence of the home as the primary socialization agent on the psycho-educational dimensions of the child must become more focal in our research efforts. Aspects of the home which are directly related to the development of the psycho-educational dimensions obviously discussed are viewed here as process variables. The process variables in the home are therefore defined here as the dynamic mediators between the environment and the child.

Emphasizing the significance of the early environment for the development of intelligence, language skill, and conceptual ability Hunt defined cultural deprivation as a "failure to provide an opportunity for infants and young children to have the experience required for adequate development of those semi-autonomous central processes demanded for acquiring skill in the use of linguistic and mathematical symbols and for analysis of causal relationships."[98] Bloom interpreted data from one thousand longitudinal studies in an attempt to identify and explain stability of physical characteristics, intelligence, achievement, interests, attitudes, and personality at various ages and to determine the conditions under which the stability can be modified.[99] Among his general findings, supporting Hunt's statement, was the tremendous importance of the early environment. The home environment had its greatest effect on a characteristic, such as intelligence, during its most rapid period of growth. He specifically cited three factors of the environment that affect the development of general intelligence: (a) "the stimulation provided in the environment for verbal development," (b) "the extent to which affection and reward are related to verbal reasoning accomplishments," and (c) "the encouragement of active interaction with problems, exploration of the environment, and the learning of new skills." Influenced by Bloom's work, Wolf attempted to identify and measure the environmental process variables related to intelligence.[100] Specifically studied were the relationships of parental influence on the intelligence test performance of 60 fifth graders. A scale was devised from the aspects of the home hypothesized to be most relevant to general intelligence items. A significant correlation of .69 between the total score (summation of the scale scores) and the child's I.Q. was obtained. Greatest relationships between parent's influence and child's I.Q. were found for: (a) the parent's intellectual expectations for the child; (b) the amount of information the mother had about the child's intellectual development; (c) the opportunities provided for enlarging vocabulary; (d) the extent to which parents created situations for learning in the home; and (d) the extent of assistance given in learning situations related to school and non-school activities.

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[98] J. McV. Hunt, "The Psychological Basis for Using Pre-school Enrichment as an Antidote for Cultural Deprivation," Merrill-Palmer Quarterly (1964), 10, 209-248.

[99] B. Bloom, Stability and Change in Human Characteristics (New York: Wiley, 1964).

[100] R. M. Wolf, "The Identification and Measurement of Environmental Process Variables Related to Intelligence" (unpublished doctoral dissertation, University of Chicago, 1964).

Other researchers have stressed the nature of the family as significant in determining the intelligence measured on the child. Horton studied the background of 76 three-year-old black children split into the above-average and below-average groups on the Merrill-Palmer Scale of Mental Tests.[101] He found that the children in the lower group came from families where one-half the parents had less than an eighth grade education, no father had above a semi-skilled job, and there were less stable marriages and a larger number of siblings than in the high scoring group. The absence of a father in the home, according to Deutsch's study, adversely influenced the intelligence level of the children.[102] He hypothesized that this adverse effect was not so much the mere absence of the father as the diminution of organized family activity.

Sufficient interaction between adult and child is necessary for normal language development. The adult acts as a language model as well as socially motivating the child and giving him feedback on his initial mimicry of speech. McCarthy stressed the relationship between the amount and kind of contact the child has with his mother and the verbal skills of the child.[103] In the disadvantaged family, however, there is less parent-child interaction and less mother-child interaction than in middle class families.[104]

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[101] C.P. Horton and P.E. Crump, "Growth and Development XI: Descriptive Analysis of the Backgrounds of 76 Negro Children Whose Scores are Above or Below Average on the Merrill-Palmer Scale of Mental Tests," Journal of Genetic Psychology (1962), 100:255-265.

[102] Martin Deutsch and others, Communication of Information in the Elementary School Classroom (New York: Institute for Developmental Studies, 1964).

[103] D.A. McCarthy, "Affective Aspects of Language Learning," Newsletter (APA Division of Developmental Psychology, Fall, 1961), 1-11.

Recently Peterson and DeBord investigated home environment variables and their relation to achievement in white and black boys in a Southern city. Family composition, economic and social stability, social participation, cultural level of the home and other aspects of the family milieu were assessed. Separate multiple regression analyses for each subcultural group produced multiple correlations of .86 in the case of the black families and .75 in the case of the white. The particularly noteworthy finding, however, was the uniqueness of the set of variables for each group. Commonalities existed but the predictive sets were different for each group.

Another pertinent body of work in this regard was that completed by Hess and Shipman at the University of Chicago.[105] The relationships drawn unequivocally between mother's behavior and child's vocabulary level by this study do much to validate the obvious pertinence of family milieu to later learning. The observational nature of this work is also worth noting for as Stodolsky points out it is clear that:

> it will eventually be necessary to execute detailed observational studies of children in home environments if one wants to arrive at valid hypotheses about the dynamics of development in interaction with environment. The dearth of naturalistic data about children's behavior and concomitant environmental circumstances is most regrettable.[106]

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[104] J. Walter, R. Connor and M. Zunich, "Interaction of Mothers and Children from Lower-class Families," Child Development (1964), 35:433-440.

[105] R.D. Hess and V.C. Shipman, "Early Experience and the Socialization of Cognitive Modes in Children," Child Development (1965), 36:869-886.

[106] S.S. Stodolsky and G. Lesser, "Learning Patterns in the Disadvantaged," Harvard Educational Review (1967), 37, 546-593.

The importance of gaining more information about process variables as they are related to the idiosyncracies of significant subcultural socialization milieus is the critical portion of the proposed comprehensive model.

Summary

The behavioral model is divided into three major sections, subpopulations of the disadvantaged, psycho-educational dimensions of the child, and process variables in the environmental milieu. The sections of the model in summary are: subpopulations as cultural group, rural or urban locale, geographic area, social class, and sex; psycho-educational dimensions as intelligence, language skill, conceptual ability, perceptual ability, motivation, and self-concept; and, process variables as child rearing practices, reinforcement patterns, parental expectations, language patterns, family composition, stability, mobility, and the physical surroundings of the home.

To integrate the sections into a cohesive operational model the functions of the subpopulations, psycho-educational dimensions, and process variables must be related. The subpopulation matrix defines the sample of children for whom the psycho-educational dimensions must be measured and profiled. When the performances of various groups are profiled, process variables in the home must be better defined through increased usage and facilitation of observational technique.

The core of the model is an emphasis upon structures and processes over time within the early life of children that are unique to subcultural group, observable and profilable as a matrix of interacting process variables that mold the psycho-educational dimensions measurable at any point in the life of the individual. This tracing or origin or charting of an etiological process would give pertinent information that could be used prescriptively to mold intervention programs of meaning to aid disadvantaged children fill in deficits debilitating to potential educability. Lesser, Clark, *et al.*, have shown conclusively that ethnic groups show different profiles of psycho-educational dimensions and that these patterns of ability, although more powerful in the lower class, are stable across social class levels.[107]

The "disadvantaged" are a heterogeneous group of people and so long as we seek to define the term with generality each research foray will bring different and more confusing empirical results. We must have more refined models involving more refined assessment of process variables or environmental circumstances. Clusterings of process dimensions that can be shown to be related to meaningful psycho-educational dimensions would then identify disadvantagement in much more complex, idiosyncratic and meaningful terms.

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[107] G.S. Lesser, F. Fifer and D. Clark, "Mental Abilities of Children from Different Social-class and Cultural Groups," *Monographs of the Society for Research in Child Development* (1965), 30.

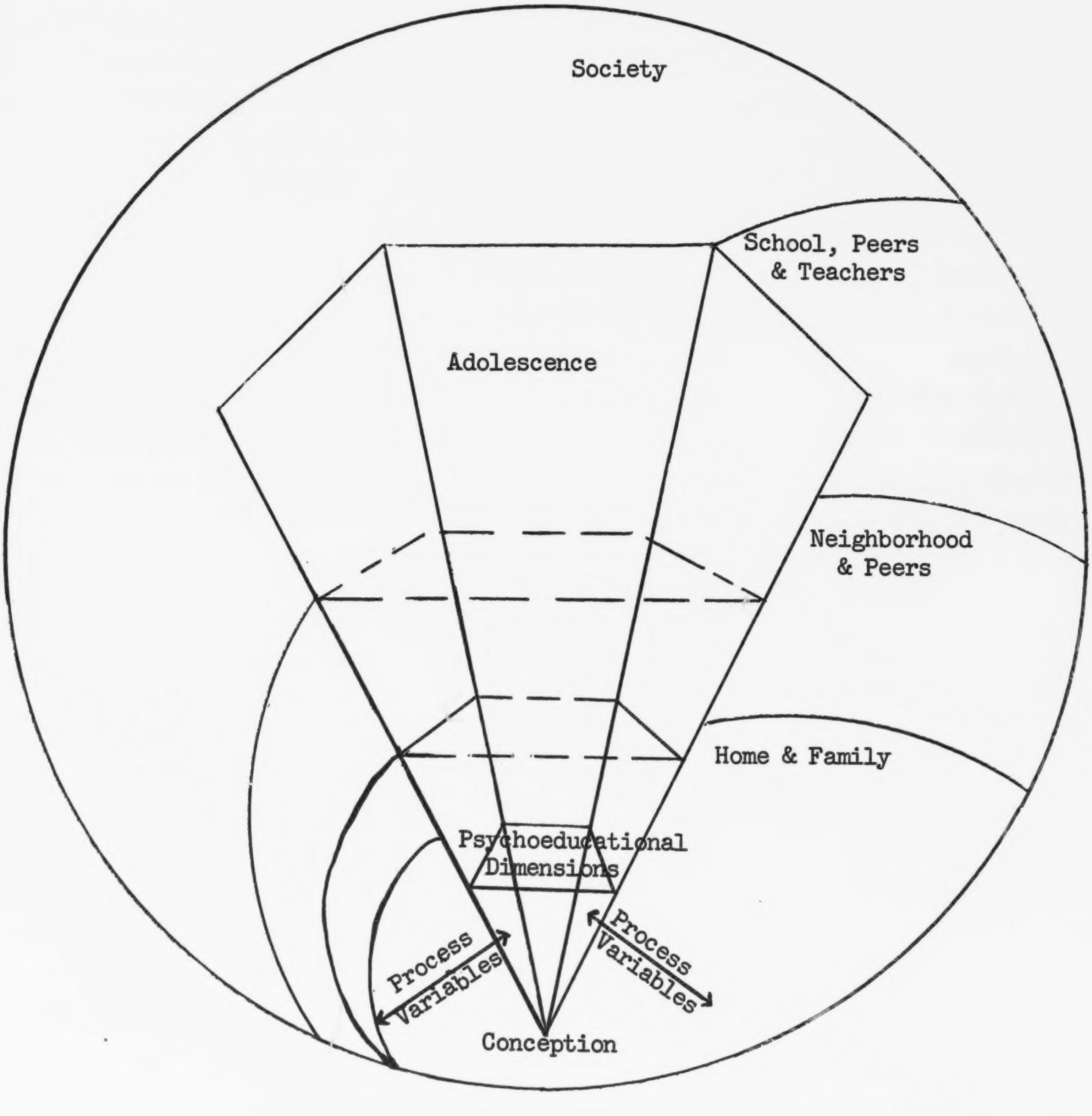
Society
School, Peers
& Teachers
Adolescence
Neighborhood
& Peers
Home & Family
Psychoeducational
Dimensions
Process
Variables
Process
Variables
Conception

Fig. 2--Environmental Schema

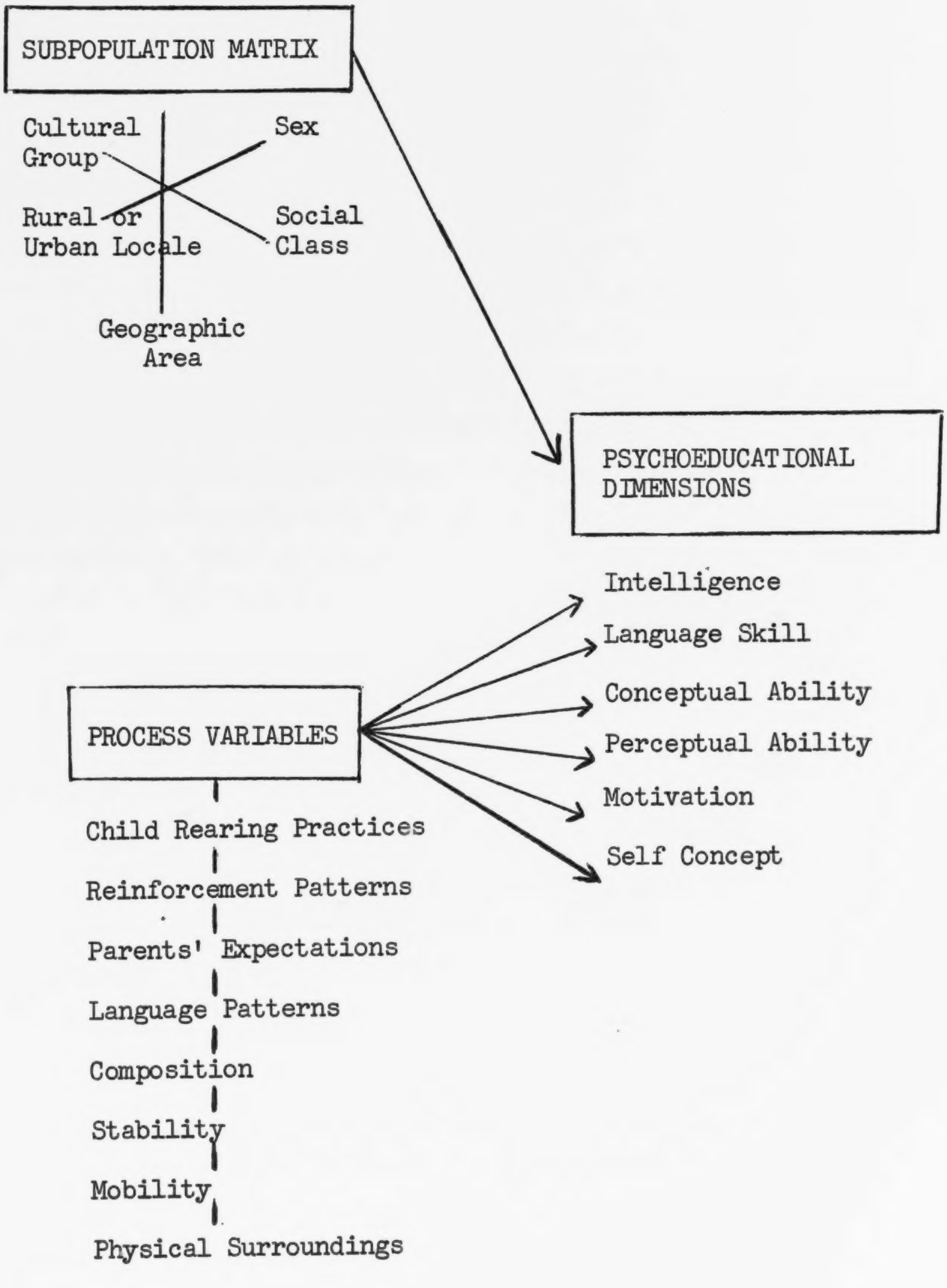
SUBPOPULATION MATRIX
Cultural Group
Sex
Rural or Urban Locale
Social Class
Geographic Area
PSYCHOEDUCATIONAL DIMENSIONS
Intelligence
Language Skill
Conceptual Ability
Perceptual Ability
Motivation
Self Concept
PROCESS VARIABLES
Child Rearing Practices
Reinforcement Patterns
Parents' Expectations
Language Patterns
Composition
Stability
Mobility
Physical Surroundings

Fig. 3--Behavioral Model

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THE EVALUATION OF EFFECTS OF EARLY EDUCATIONAL INTERVENTION ON INTELLECTUAL AND SOCIAL DEVELOPMENT OF LOWER-CLASS, DISADVANTAGED CHILDREN*

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Introduction

The main body of the present paper will be made up of an interim report of a longitudinal study which is still in progress. This study was undertaken to investigate the effects of early educational intervention on intellectual development and on the interplay between motivational and cognitive variables. The research has been concentrated on lower-class, disadvantaged children as they moved from nursery through the first phases of formal education in the primary grades. Specifically, the present paper will deal with the outcome of studies which employed two types of techniques in the measurement of intellectual functioning, that is, standardized tests and classroom grades, and two techniques in the measurement of motivation, ratings by participant observers and direct observation by nonparticipant observers. This paper therefore will be organized in two major parts, intellectual achievement and motivation.

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Intellectual Achievement

Intelligence Tests. One set of our measures of intellectual functioning consisted of three intelligence tests. The first of these, the Stanford-Binet, is primarily a verbal test; the second, the Goodenough Draw A Man Test, is essentially a non-verbal test; and the third, the Peabody Picture Vocabulary Test, lies somewhere between a verbal and a non-verbal test. Our study included three groups of children. Group I consisted initially of 60 lower-class, four-year-old Negro children who were selected randomly for enrollment in an experimental nursery program instituted in four public schools in the ghetto of North Philadelphia. This program started in the fall of 1963 and was much like the Get Set Program. Group II included five-year-old children who entered kindergarten in the same four schools in the fall of 1964 with no prior nursery experience; the criteria for their selection was that the two groups be comparable with regard to sex and chronological age. The third group consisted of six-year-old children who entered first grade in the same four schools in the fall of 1965 without any nursery or kindergarten experience. The criteria for selection of these children was the same as for Group II.

The research design specified that all these children be tested after they had entered school, and retested annually until they had completed at least four grades of elementary school. The initial testing was usually delayed until five months after the child had entered school, in order to avoid the contaminating effects of a strange setting, unfamiliarity with the testing situation, and the undue amount of stress manifested by many of these children when tested in a strange situation. This schedule was applied to the initial testing of children who entered nursery (Group I), and of the children who entered kindergarten without nursery (Group II). However, the initial testing of first grade children (Group III) was carried out very shortly; that is, several weeks after they entered school in order to make their scores comparable to those of the two other groups who had been tested in the later part of kindergarten. These scores were treated as an I.Q. measure obtained at kindergarten age. This difference in the timing of testing was eliminated in subsequent years.

First I shall discuss initial I.Q. scores of children entering school at different ages; that is, children in Groups I, II, and III.[1] The data in Table 1 indicates that there is no uniform tendency for initial I.Q. scores to increase or decrease with age. In other words, a child's I.Q. score apparently neither improves nor deteriorates whether he enters school at four, five, or six years of age. Analyses of variance yielded no significant difference on two of the tests. However, children in Group III (those who entered first grade without prior pre-school experience) had significantly lower scores on the Stanford-Binet. But this is only one of three tests and, as indicated earlier, the lower score might have been due to the fact that children in Group III were tested shortly after they entered school and thus had to perform in a less familiar and more inhibiting situation than children in Groups I and II.

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[1] Overall and complete statistical analyses will be carried out at the end of the fourth grade. While the overall statistical analysis is thus delayed to a later date, complete analysis for data up to and including the first grade have been presented in earlier reports: "The Impact of Pre-School Experience on Intellectual Development in Educationally Deprived Children," presented at the Annual Meetings of the American Educational Research Association, Chicago, Illinois, 1966, and "The Use of Multiple Criteria to Evaluate Effects of Early Educational Intervention on Subsequent School Performance," paper presented at the Annual Meetings of the American Educational Research Association, Chicago, Illinois, 1968. Those statistical analyses which have already been carried out will be indicated in the text wherever possible. The criterion for statistical significance, unless stated otherwise, is $p < .05$ throughout the paper.

The validity of this interpretation was of considerable importance to us, and, we believe, to evaluative studies of educational intervention generally. Therefore, we decided not to let the matter rest with an interpretation, but follow it up with an empirical test. We selected 25 first grade boys and 25 first grade girls who had entered first grade without pre-school experience in the same four schools in which the original study was carried out. The children were selected so as to be highly comparable in age, ethnic background, and social class to our original sample of children who had entered first grade without prior schooling. The testing of this new sample of children was carried out by three testers who had the same background and level of training as the testers of the initial group of children. The only difference between the initial Group III and the new Group III' was that the initial group, as indicated, was tested in the month of September, immediately following the child's entrance into first grade and the child's first exposure to school; whereas the new sample of children were tested five months after school entry.

It can be seen from inspection of Table 1 that our earlier interpretation has been supported by the subsequent empirical test. The average Stanford-Binet I.Q. score of the new Group III' rose sufficiently (85.8 to 89.2) to make any difference between these children and the children in Groups I and II negligible. A new set of analyses of variance were carried out between Groups I, II, and our new Group III'. It was found that for all three tests, i.e., Stanford-Binet, Goodenough Draw A Man and Peabody Picture Vocabulary, there was no significant difference between the average I.Q. scores of the three different groups. In other words, the I.Q. scores of children entering school at nursery, kindergarten, and first grade do not differ significantly from one another when all children are tested at the same time after school entry. Comparisons using the t test were performed between Groups III and III'. It was found that the average Stanford-Binet I.Q. scores between the two groups did not differ significantly.

Table 1--Initial average I.Q. scores of children entering school at Nursery (Group I), Kindergarten (Group II), and First Grade (Group III).

Stanford-Binet

Groups	N	Averages	S.D.
I	55	92.3	10.5
II	53	91.2	15.0
III	58	85.8	13.2
III'	50	89.2	13.3

Draw A Man

Groups	N	Averages	S.D.
I	49	96.0	19.3
II	52	97.0	17.7
III	58	98.7	18.2

Peabody Picture Vocabulary

Groups	N	Averages	S.D.
I	100*	75.0	17.3
II	45	79.4	14.8
III	58	74.5	17.0

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* Since this test (PPV) was not administered to the original group in 1963-64, the scores of children entering Nursery in the subsequent year (1964-65) were used in this cell.

Two conclusions may be drawn from these findings. The first conclusion bears on our own follow-up study. It is that our three experimental groups do not differ significantly from each other with regard to their initial I.Q. level. Therefore, subsequent differences between children in the three groups who entered school at different ages cannot be attributed to differences in the initial I.Q. level of the three groups. The second conclusion that can be drawn from our finding pertains to the general importance of the time of initial testing for pre- and post-studies. The time of pre-testing and the child's familiarity with the test situation is an important factor and must be controlled in order to obtain a valid measure of the effect of educational intervention when such a measure consists of the difference between pre- and post-test scores.

Table 1 reveals a second major finding, namely that the poorer performance of the disadvantaged compared to that of the middle-class child varies from test to test. For example, lower-class, disadvantaged pre-school children do not deviate markedly from an average score of 100 on the Goodenough Draw A Man Test on which our children receive an average I.Q. score of 97.3 (N=159). They deviate more strongly from the average score of 100 on the Stanford-Binet Test, on which our children receive an average I.Q. score of 89.7 (N=168). They deviate most on the Peabody Picture Vocabulary Test, on which our children receive an average I.Q. score of 76.8 (N=203). It is clear from these findings that any estimate of depressed intellectual achievement in lower-class deprived children must be qualified with reference to the test on which such an estimate is based.

It is important to note that the Peabody Picture Vocabulary Test, which yields the lowest I.Q. score for children has been widely used in studies of lower-class deprived children. This test incorporates certain very desirable features and should be improved if possible. It can be administered in a much shorter period of time and requires much less training compared to the

Stanford-Binet or other individually administered intelligence tests. Moreover, as we shall see below, the *Peabody Test* resembles the *Stanford-Binet* in a variety of ways.

This point leads to the next question, namely the correlation between these tests in those instances where more than one of them was administered to the same child or group of children. The intercorrelations among these tests are presented in Table 2. It can be seen from Table 2 that *Stanford-Binet* scores correlate highest with *Peabody Picture Vocabulary* scores and second highest with *Draw A Man* scores. By contrast, *Draw A Man* scores and *Peabody Picture Vocabulary* scores show very little correlation with each other. This finding suggests that the latter two tests measure different aspects of the same general area of intellectual functioning that is tapped by the *Stanford-Binet Test*. It is interesting to note that intercorrelations between tests tend to be somewhat higher at nursery age, but remain very stable on the subsequent age levels. In general, the intercorrelations in Table 2 suggest that one must be very careful in interpreting findings concerning intellectual achievement when these findings are based on different tests.

Table 2--Correlations (r) between Stanford-Binet (SB), Draw A Man (DAM) and Peabody Picture Vocabulary (PPV) Test I.Q.Scores in Nursery School, Kindergarten, and First Grade Children.

Test	Age Group		
	Nursery	Kindergarten	First Grade
	(N = 58)	(N = 148)	(N = 146)
SB with DAM	.50**	.40**	.28**
	(N = 26)		
SB with PPV	.50**	.63**	.61**
	(N = 44)		
DAM with PPV	.25*	.15	.13
** p <.01 * p <.05			

We shall now evaluate the impact of pre-school experience on intellectual achievement in these three groups of children. The general conclusion that can be drawn from our findings (see Table 3) is that the impact of earlier educational intervention on intellectual achievement becomes evident after one year, and continues into the second, third and fourth year of our follow-up study. Moreover, the three different tests continue to differ from one another over time.

The Stanford-Binet Test reflects most clearly the effects of length of educational experience. Group I, which experienced schooling since nursery, retained its initial gain and advantage on each of the four age levels, while Group III, for whom formal schooling did not start until the first grade, remained consistently below the other two groups. The difference between the three groups, on Stanford-Binet scores, were significant on each of the four grade levels when tested by analyses of variance. The Peabody Picture Vocabulary Test was the second most sensitive test. Length of educational experience was associated with higher intellectual achievement scores in kindergarten and in the first grade, at which time these differences were statistically significant when tested by analysis of variance. These differences disappear in the third or fourth year of follow-up, or in the second and third grade. The Draw A Man Test was the least sensitive to effects of length of educational experience in the sense that the differences between our three groups never reached significance, although they began to fall in the predicted direction from first grade on, and began to approach significance in the third grade.

The data in Table 3 permit us to examine changes over time from kindergarten through the third grade, and take a look at the generalization one so often hears, namely that the disadvantaged child begins to fall behind from second grade on. Again, we benefit from the use of multiple tests or multiple criteria of intellectual achievement. A look at our data in Table 3 makes it clear that Stanford-Binet scores continue to

Table 3--Mean Scores of Three Measures of Intelligence (Stanford-Binet Test, Goodenough Draw A Man Test, and the Peabody Picture Vocabulary Test) for Three Groups of Children (Group I had Nursery and Kindergarten, Group II had Kindergarten only and Group III had neither Nursery nor Kindergarten) on Four Grade Levels

Groups	Grade Level							
	N	Kindergarten	N	First Grade	N	Second Grade	N	Third Grade
				Stanford-Binet				
I	(39)	96.6	(39)*	98.3	(50)	97.7	(45)	97.6
II	(52)	91.2	(52)	94.3	(49)	93.1	(46)	93.1
III	(56)	86.1	(56)	89.8	(42)	89.3	(51)	89.0
				Draw A Man				
I	(38)	96.9	(38)	103.6	(50)	99.3	(46)	93.5
II	(51)	97.0	(51)	100.0	(49)	98.4	(45)	90.8
III	(56)	99.1	(56)	100.3	(42)	95.6	(50)	86.7
				Peabody Picture Vocabulary				
I	(35)	84.6	(35)	90.7	(50)	88.5	(46)	89.9
II	(44)	80.3	(44)	85.9	(49)	88.9	(45)	89.0
III	(55)	74.7	(55)	82.4	(42)	87.1	(51)	86.5

* We were able to recover 13 more children from this group for the retesting a year later.

increase into the first grade and Peabody Picture Vocabulary scores into the second grade before these scores stabilize. Thus, neither the Stanford-Binet scores nor the Peabody Picture Vocabulary scores show any indication of decline well into the third grade.

In striking contrast with the findings based on the Stanford-Binet Test and the Peabody Picture Vocabulary Test, there is an initial increase in the Draw A Man performance from kindergarten to first grade which is followed by a continuous decline throughout the second and third grade. It is interesting that this decline following first grade appears only on non-verbal tests in our study, whereas the two more verbal tests fail to show any decline into the third grade. The decline of the Goodenough Draw A Person Test suggests the possibility that growing up in a disadvantaged environment has the most deleterious effect on the child's image of people--the adult male or oneself, rather than on language.

Finally, the three tests differed considerably with regard to their sensitivity to sex differences. Analyses of variance yielded significant sex differences consistently on the Goodenough and least often on the Stanford-Binet Test. The sex differences favored girls but generally did not interact with length of educational experience.

Classroom Marks. The most relevant evidence for the impact of preschool education on school performance becomes available when we can begin to obtain school grades for children in our three different groups. With all due respect to the limitations of classroom grades, they remain important indicators of academic achievement, especially when they are drawn from a large number of classrooms in different schools. In our own case, the number of schools attended by children increased more than ten-fold from four schools at the outset of our study to fifty different schools by the end of the second grade. Moreover, marks give us more detailed information concerning a variety of academic skills than we could obtain from our intelligence tests.

Table 4 shows that the timing of educational intervention is significantly reflected in marks at the end of the first grade. Children with preschool experience, whether it was nursery and/or kindergarten, receive significantly higher grades in arithmetic, reading, and writing than children who entered first grade with no prior educational experience. Apparently it does not matter whether a child had nursery and kindergarten, or only kindergarten: both types of background experience clearly affect his grades, compared to children with no pre-school experience.

These findings at the end of first grade are supported by subsequent analyses of marks obtained for the same children on the first and final report cards of the second grade (see Tables 5 and 6). The impact of early educational intervention now becomes apparent in a number of important subjects in addition to arithmetic and reading. Children in Groups I and II surpass those in Group III with respect to spelling, social studies, science, speech, written expression and music. Preschool experience apparently does not affect performance in such areas as art, health education, work habits, handwriting and citizenship practices. However, it should be noted that children with pre-school experience tend to have superior grades even in these latter areas, although the trends failed to reach statistical significance.

This demonstrated prolonged effect of earlier educational intervention on academic achievement in most basic cognitive skills is indeed remarkable, especially since 44 percent of these children were spread over fifty schools and since the teachers did not know to which of our three groups their pupils belonged.

Finally, the common trends of our findings, based on two different methods of assessing intellectual achievement (standardized tests and marks (from entirely independent sources,

Table 4--Cumulative Marks and Chi Squares at the End of First Grade for Children with Different Amounts of Educational Background: Group I Nursery and Kindergarten, Group II Kindergarten only, Group III neither Nursery nor Kindergarten

Subject	Group	Frequencies (worst)*	(best)	Chi Square	d.f.	P
Arithmetic	I	25	27	9.89	2	$<.01$
	II	24	22			
	III	39	12			
Reading	I	37	15	6.86	2	$<.05$
	II	33	13			
	III	46	5			
Writing	I	27	24	9.88	2	$<.01$
	II	16	30			

* Worst equals marks of C, D, F; best equals marks of A, B.

Table 5--Marks and Chi Squares on First Report Card in Second Grade for Children with Different Amount of Educational Background: Group I Nursery and Kindergarten, Group II Kindergarten only, Group III neither Nursery nor Kindergarten

Subject	Group	Frequencies (worst)*	(best)	Chi Square	d.f.	P
Arithmetic	I	15	35	11.22	2	$<.01$
	II	17	26			
	III	28	16			
Reading	I	36	14	6.84	2	$<.05$
	II	38	6			
	III	42	4			
Spelling	I	19	28	7.73	2	$<.05$
	II	20	22			
	III	29	13			
Social Studies	I	23	21	12.17	2	$<.01$
	II	29	13			
	III	35	5			
Science	I	36	23	6.41	2	$<.05$
	II	28	15			
	III	36	7			
Speaking	I	29	21	7.39	2	$<.05$
	II	27	19			
	III	36	8			

Table 5--Continued.

Subject	Group	Frequencies (worst)*	Frequencies (best)	Chi Square	d.f.	P
Written Expression	I	35	9	6.56	2	<.05
	II	33	8			
	III	38	1			
Art	I	24	22	2.39	2	N.S.
	II	19	18			
	III	26	13			
Health Education	I	22	25	2.32	2	N.S.
	II	18	23			
	III	25	17			
Handwriting	I	28	20	1.12	2	N.S.
	II	24	22			
	III	29	17			
Work Habits	I	27	24	2.65	2	N.S.
	II	25	23			
	III	32	16			
Citizenship Practices	I	30	21	2.12	2	N.S.
	II	22	26			
	III	28	20			

*Worst equals marks of C, D, F; best equals marks of A, B.

Table 6--Marks and Chi Squares on Final Report Cards in Second Grade for Children with Different Amounts of Educational Background: Group I Nursery and Kindergarten, Group II Kindergarten only, Group III neither Nursery nor Kindergarten

Subject	Group	Frequencies (worst)*	(best)	Chi Square	d.f.	P.
Arithmetic	I	24	21			
	II	24	20	5.90	2	<.05**
	III	34	11			
Reading	I	24	20			
	II	25	19	9.23	2	<.01
	III	37	8			
Spelling	I	13	27			
	II	16	27	11.50	2	<.01
	III	28	14			
Social Studies	I	21	21			
	II	20	24	14.23	2	<.01
	III	36	8			
Science	I	22	20			
	II	21	28	16.59	2	<.01
	III	38	6			
Speaking	I	23	21			
	II	21	23	7.73	2	<.05
	III	33	11			

Table 6--Continued.

Subject	Group	Frequencies (worst)*	 (best)	Chi Square	d.f.	P
Written Expression	I	23	17	4.20	2	N.S.
	II	28	14			
	III	33	9			
Art	I	13	28	3.15	2	N.S.
	II	16	27			
	III	22	22			
Health Education	I	17	25	3.71	2	N.S.
	II	16	28			
	III	23	18			
Handwriting	I	21	24	0.13	2	N.S.
	II	22	22			
	III	23	23			
Music	I	19	22	9.40	2	<.01
	II	18	25			
	III	28	10			
Physical Education	I	18	21	0.62	2	N.S.
	II	19	24			
	III	19	17			

* Worst equals marks of C, D, F; best equals marks of A, B.

** P= .05 for x^2= 5.99

provide supportive validity to each other. The intelligence tests carry weight because they represent objective, standardized instruments with known reliability. Our findings based on classroom marks carry weight because they represent the child's ability to learn in a variety of areas over an extended period of time.

Motivation

Teacher Ratings. Motivation to learn and to go to school have been accepted as basic variables in the educational process. As report cards do not get at these variables directly, we made an attempt to get such information about our children from their teachers through systematic interview. All teachers of classes which included one or more of the children from our three follow-up groups were asked to select two or three children in their classroom who had the best attitude toward learning and toward school in general, and two or three children who had the poorest attitude toward learning and toward school. We also asked teachers to rate children in the same way for their ability to learn and for their popularity among peers. We were able to do this during the first and second grade, encompassing a total of fifty teachers in fifty different schools. After the teachers placed children on the extremes of several dimensions, we compiled a total list which was checked against the names of children in our three groups. The children from the total list which belonged to our three groups and which happened to be mentioned as part of those representing extremes of our dimensions were compared as outlined in Tables 7 and 8. Inspection of Table 7 shows that in the first grade, most of the children selected as manifesting the best attitude toward school came from Groups I and II, that is, from children with pre-school experience. Children selected by their teachers as manifesting the worst attitude toward learning and the most negative attitude toward school came relatively more often from our Group III, that is, our children who did not have any preschool experience. Judgments on the other two dimensions, that is, whether the child was especially able or slow and whether a child was more or less popular among other children, distributed in the predicted direction but failed to reach statistical significance.

The same ratings by teachers were redone at the end of the first report period in the second grade (see Table 5). These findings confirm those obtained at the end of the first grade, except that the effect of earlier educational intervention on ratings of pupil's perceived ability in the classroom had then become highly significant. These data offer evidence for the beneficial effects of preschool and kindergarten experience on the child's attitude toward learning and school in general. Early educational intervention affects not only cognitive functioning and academic achievement, but also the child's attitude toward learning and school.

Before I began working with lower-class disadvantaged children, I had developed a series of personality measures which were validated on middle-class children.[2] The specific areas of motivation and personality functioning tapped by these measures were: dependency of children on adults, independence striving, dependency conflict, and aggression. Dependency striving refers to the frequency and persistence with which a child seeks help, attention, recognition, physical contact, and proximity to adults. Independence of autonomous achievement striving refers to the frequency with which a child initiates activity, tries to overcome obstacles, and to complete activities by himself, to the frequency with which he derives satisfaction from this whole process and the extent to which he desires or enjoys doing things or solving problems by himself. The idea of unaided effortful

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[2] E. K. Beller, "Exploratory Studies of Dependency" _Transactions of the New York Academy of Sciences_, Ser. II, Vol. 21, No. 5 (March, 1959), pp. 414-426. E. K. Beller and J. L. Turner, _Sex Differences: The Factorial Structure of Personality Variables in "Normal" and "Emotionally Disturbed"_ Preschool Children. Paper presented at the Annual Meetings of the Eastern Psychological Association, Philadelphia, Pa. in April, 1964.

Table 7--Ratings of Pupil Attitudes, Abilities and Popularity in First Grade for Children with Different Amounts of Educational Background: Group I Nursery and Kindergarten, Group II Kindergarten only, Group III neither Nursery nor Kindergarten

Dimensions	Group	Frequencies (best)	Frequencies (worst)	Chi Square	d.f.	P
1 best vs worst	I	9	2			
attitude toward	II	4	5	9.07	2	$<.05$
study and learning	III	1	7			
2 most positive vs	I	6	2			
most negative atti-	II	6	2	6.01	2	$<.05$
tudes toward school	III	3	8			
3 especially able vs	I	8	2			
especially slow	II	4	2	3.47	2	N.S.
	III	4	6			
4 most vs least	I	5	8			
popular among	II	5	2	2.70	2	N.S.
other children	III	3	6			

Table 8--Ratings on Pupil Attitudes, Abilities and Popularity in Second Grade for Children with Different Amounts of Educational Background: Group 1 Nursery and Kindergarten, Group II Kindergarten only, Group III neither Nursery nor Kindergarten

Dimensions	Group	Frequencies (best)	Frequencies (worst)	Chi Square	d.f.	P
1 best vs worst attitude toward study and learning	I	17	4	8.88	2	.05
	II	12	5			
	III	8	13			
2 most positive vs most negative attitude toward school	I	15	9	6.20	2	.05
	II	13	4			
	III	6	11			
3 especially able vs especially slow	I	16	5	10.76	2	.01
	II	10	9			
	III	5	15			
4 most vs least popular among other children	I	12	9	1.12	2	N.S.
	II	5	5			
	III	5	8			

striving and self-sufficiency underlies this concept of independence. Aggression is defined as the frequency with which a child threatens, derogates, attacks others physically, and destroys materials.

Dependency conflict is defined in terms of a child's difficulty in accepting his dependency needs and in permitting himself to seek emotional and physical support from his protective environment.[3] Thus, a child who is conflicted over his dependency will be inhibited in expressing his needs for help, affection and attention: he will use indirect and devious ways to gratify his dependency needs: and finally, he will betray his conflict over dependency by fluctuating irrationally and unpredictably between lack of control and over-control in his manifestations of dependency needs.

The data presented in Table 9 illustrate the place of dependency conflict in the personality dynamics of the children in our follow-up study. First, we note that dependency motivation and dependency conflict are almost entirely uncorrelated. This finding demonstrated that we have successfully constructed two separate and different measures of dependency: one which deals with the frequency and intensity of a child's dependency striving, and the other with the amount of conflict he experiences over manifesting his dependency needs.

The relationship between dependency conflict and both autonomous achievement striving and aggression (see Table 9) are of substantive importance. We find that the more conflicted a child is over his dependency, the more impaired he is in his autonomous achievement striving, or self-sufficiency. Thus, disadvantaged children who are inhibited in seeking help and support from the adult environment fail to develop a high level of motivation to function independently and self-sufficiently.

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[3] The concept of dependency conflict and the initial analyses of our conflict measures were first reported in: Disposition Towards Dependence and Independence, by E. Kuno Beller. Presented at the Annual Meetings of the American Psychological Association, September, 1961.

Table 9--Correlations (r) between Personality Measures[+] in Nursery, Kindergarten, and First Grade Children

Personality Variables	Nursery	Kindergarten	First Grade
	(N = 174)	(N = 93)	(N = 96)
DC with DS	- .17**	-.09	-.07
DC with AAS	- .34**	-.50**	-.70**
DC with AGG	.08	.30**	.25*

** $p < .01$
* $p < .05$
[+] Dependency Striving (DS), Autonomous Achievement Striving (AAS), Aggression (AGG), Dependency Conflict (DC).

In other words, the disadvantaged lower-class child who does not trust his environment enough to seek and utilize physical and emotional support from adults fails to develop confidence in himself and is unable to function independently and self-sufficiently.

Finally, the relationship between dependency conflict and aggression is less strong but still statistically significant and important. Children with conflict in the area of dependency also have difficulty in controlling their aggression. Thus, the child who is conflicted over his dependency not only fails to develop self-sufficiency, but also apparently experiences difficulty in handling his aggression. Both relationships, especially the former, seem to increase with age (see Table 9).

A consideration of the relationship between motivation and intellectual performance in our children reveals that autonomous achievement striving and dependency conflict relate consistently and inversely to performance on intelligence tests. Table 10 shows that autonomous achievement striving correlates consistently and positively with performance on three different intelligence tests, whereas dependency conflict correlates consistently and negatively with performance on the same three tests. Those children who are more motivated to be self-sufficient in coping with their environment are also higher in their intellectual achievement, as measured by our tests. Similarly, children who are more inhibited in manifesting dependency needs and in turning to the adult environment for support are more handicapped in their intellectual achievement. The fact that the magnitude of these relationships increases with age on two of our tests suggests that they may reflect a developmental process in these lower class deprived children.

These findings have definite implications for curriculum planning, especially for nursery and kindergarten programs. Much thought should be given to procedures for encouraging these children in their autonomous achievement striving, that is, in their efforts to explore things on their own initiative and to carry to completion activities that they have begun. Even more central is the need to help these children develop greater trust in their adult environment and thereby overcome their inhibitions and conflicts over turning to protective adults for emotional and physical support. Our findings suggest that such efforts would greatly enhance the effectiveness of programs for training these children to become competent in areas of intellectual achievement, as well as to develop confidence in themselves and in others.

We have shown that certain motivational variables correlate with intellectual achievement in deprived lower-class children, while other motivational variables fail to effect the quality of a child's performance in the cognitive domain. We now consider the issue of changes in personality from nursery to first grade. Table 11 suggests the following generalizations: Group I, that is, first graders who have been in school for the longest period, seem to be highest on dependency on teacher and on aggression measures. These children are also highest on autonomous achievement striving, and lowest on conflict over dependency. In sharp contrast, children from Group III, who did

Table 10--Correlations (r) of Personality Measures[+] with Intellectual Achievement in Nursery, Kindergarten and First Grade Children

Personality Variables	Nursery	Kindergarten	First Grade
		Stanford-Binet Scores	
	(N = 49)	(N = 93)	(N = 86)
DS	.01	.20	.02
AAS	.30*	.32**	.43**
AGG	-.02	-.02	.02
DC	-.13	-.30**	-.41**
		Draw A Man Scores	
	(N = 45)	(N = 91)	(N = 95)
DS	-.11	.01	-.03
AAS	.18	.23	.36**
AGG	-.15	-.16	-.15
DC	-.04	-.20	-.31**
		Peabody Picture Vocabulary Scores	
	(N = 94)	(N = 82)	(N = 95)
DS	-.01	.16	-.07
AAS	.38**	.24*	.29**
AGG	-.07	-.02	.11
DC	-.33**	-.34**	-.21*

** $p < .01$

* $p < .05$

[+] Dependency Striving (DS), Autonomous Achievement Striving (AAS), Aggression (AGG), Dependency Conflict (DC).

not enter school until the first grade, are lower than the other two groups of first graders in autonomous achievement striving, and higher in inhibition, or conflict over dependency.

Table 11--Average Personality Measures* of First Grade Children with Different Amounts of Educational Background: Group I Nursery and Kindergarten, Group II Kindergarten only, Group III neither Nursery nor Kindergarten

	Group I (N = 31)	Group II (N = 28)	Group III (N = 37)
DS^{+}	4.30	3.56	3.72
AAS‡	4.35	4.29	3.41
AGG‡	4.54	3.56	3.44
DCT^{+}	3.55	3.95	4.25

‡ Difference between groups p ,05 when tested by Analysis of Variance

+ Difference between groups p .10 when tested by Analysis of Variance

* Dependency Striving (DS), Autonomous Achievement Striving (AAS), Aggression (AGG), Dependency Conflict (DC)

The meaning of these findings may be clarified by a discussion of the implications of two pairs of personality variables, namely autonomous achievement striving and dependency conflict on one hand, and dependency motivation with respect to teachers, and aggression on the other. We must refer back to a finding reported in Table 9, showing that only autonomous achievement striving and dependency conflict correlate with intellectual achievement. Thus, the finding that both Groups I and II, who had preschool experience are higher in autonomous achievement striving and lower in dependency conflict, suggests that these trends may be related to significantly higher intellectual performance of these same two groups on three different tests of intellectual achievement. In other words, children who have had the benefit of preschool experience are more highly motivated to be self-sufficient in their achievement striving, and simultaneously have greater trust in their adult environment so that they seek from it the physical and emotional support it has to offer.

The elevation of the dependency motivation and aggression variables in children who have had both nursery and kindergarten experience is clarified when we reiterate that these two variables are uncorrelated with intellectual achievement at three successive age levels, that is, nursery, kindergarten a and in first grade. This finding alone indicated that an elevation in emotional dependency on the teacher and in the expression of aggression is not incompatible with the superior intellectual functioning of these small children.

What then is the meaning of increased dependency and aggression in Group I children, that is, children who have had nursery experience? It may mean simply that these children have developed a closer emotional bond with the teacher, which represents a delayed development of what normally occurs earlier in middle-class children in our society. This emotional tie provides the teacher with a greater opportunity to reach the child, to socialize him, and to influence him than is possible with the child who has not yet developed such an emotional tie. Thus, heightened dependency might be a positive sign that the child is now more amenable to socialization and to educational influence from the teacher, rather than a sign of fixation at an infantile level of functioning. The same inference can be made with regard to heightened aggression in children who have had nursery experience. Most of these children experience consideable frustration in their daily lives away from the classroom. These children may simply be less inhibited in giving vent to their reactions to a very frustrating life outside the classroom. The positive meaning of this finding for educational opportunity and the role of the school in shaping the child's future will be more fully appreciated after I report one of my most vivid impressions in preschools for deprived lower-class children.

After training teachers to rate children in the areas of dependency, autonomous achievement striving and aggression, I encountered considerable resistance from teachers from a similar background as their pupils when asked to report incidents of aggression. Time and again, I was confronted with the statement that these children did not manifest any aggression, particularly in the nursery and kindergarten. Apparently, some of these teachers were reluctant to either perceive or to permit aggression in these lower-class, highly deprived children from backgrounds which generated considerable frustration and therefore at least the potential for aggression. These teachers' difficulty in either perceiving or accepting aggression in their deprived preschool pupils greatly weakens their potential effectiveness as socializers of aggression. By denying or suppressing aggressive behavior in the nursery or kindergarten, the teacher removes the aggression from the classroom, but she disqualifies herself as an effective agent in modifying the child's ability to cope with hostile and aggressive impulses away from the classroom.

On the basis of this experience, I would say that our nursery children who manifested more aggression in the first grade were not necessarily less socialized than their peers who separated this area of behavior from the classroom and thereby removed it from the teacher's influence. The stable and intimate relationship which the child with a background of nursery school was able to experience and develop with his teacher had encouraged him to display a much wider range of all behavior, even if it was undesirable, in the presence of this protective figure whom he had come to trust. In this sense, the heightened manifestations of emotional dependence on the teacher and of aggression represents a delayed, positive development in deprived children, which indicates that these children have become more ameable than their peers to the educational process and to socialization by the school. Together with higher autonomous achievement striving and lower inhibition in the manifestation of dependency, these changes represent greater self-confidence and increased trust in the human environment in those children who have had the benefit of nursery experience, compared to children who were not exposed to the educational process until they had entered first grade.

Direct Observation of Dependence and Autonomous Functioning. The final part of this report will deal with a study in which we have tried to clarify and validate some of the major findings and conclusions which have been presented in the preceding parts of this paper.

In our longitudinal study, we have attributed gains in intellectual achievement and superiority of some children over others to length of educational experience. These findings were based on comparisons between groups which permitted a good deal of overlap with regard to the dependent variable, namely gain or superiority in intellectual achievement. In the new study, we have carefully divided children in a Head Start Program on the basis of changes in their test results from the beginning and towards the end of the program into three groups: a group of children who had gained, a second group who had failed to change, and a third group who lost in I.Q. points. There was no overlap on this particular variable between the three groups of children.

Another clarification and refinement which the new study attempted, had to do with the variables of dependency and autonomy. In our longitudinal study, we distinguished between dependency motivation and dependency conflict. Measures of dependency motivation which failed to relate to intellectual functioning, did not make a distinction between instrumental and emotional dependency. In our new study, we attempted to make this distinction and expected that our new measure of emotional dependency would behave very much like our earlier measure of dependency motivation, that is, it would fail to relate to the intellectual achievement. However, our new measure of instrumental dependency was expected to behave more like our measure of dependency conflict and reflect the child's trust in his environment and his readiness to make use of available help. If a child requests help, because he cannot do something by himself, it does not reflect dependency motivation or helplessness on the child's part. Conversely, if a child who fails to seek help for something he wants to do but cannot do by himself, it indicates inhibition or conflict over seeking help rather than low dependency motivation. Therefore, the measure of instrumental and realistic dependence was expected to relate to a child's ability to gain from the educational program in Head Start. Altogether, the detailed, sequential interaction of the child with his teacher which was unexplored in our earlier study was to be investigated more intensively through direct observation in our new study. The general notion of this detailed interaction between a child and his teacher was what the child demands of the teacher, how the teacher responds to the child's initiation, how the teacher's response affects the child's behavior and how the child copes with the teacher's failure to respond to his demands in a positive and supportive way. Of course, the overall objective was to relate these detailed steps in the sequential interaction between the child and his teacher to the child's readiness to gain from the educational experience in Head Start or Get Set Nursery programs.

Another major concern of the new study dealt with clarification of our findings with regard to the role of autonomous achievement striving in the intellectual development of the child. Two clarifications were attempted in the new study. The first dealt with the continued role of the environment as a reinforcer of the child's self-sufficiency. Unless a child is autistic, it is reasonable to assume that his ability to function by himself and to derive gratification from his nonsocial endeavors and experiences needs and probably even elicits support from his social environment. In other words, autonomy does not grow only from within, but develops through reassuring responsiveness from the environment. In our new study, we attempted to obtain concrete data on this question and relate it to a child's readiness to gain intellectually from the educational experience in the Get Set Program. The second clarification with regard to autonomy which was attempted in the new study was to obtain a measure of a child's ability to make learning a self-rewarding experience, that is, to learn a cognitive task in which the reinforcement for his learning is derived solely from his own success in the learning process. We have labeled this process "Task Intrinsic Reinforcement." Thus, in that situation, autonomous achievement striving is carefully controlled and bears directly on the child's cognitive learning and acquisition of intellectual skills. This situation, which took the form of a learning experiment, was systematically related to a child's readiness or failure to gain from his educational experience in the Get Set Program.

Finally, the new study added two methodological dimensions to our longitudinal research, namely direct non-participant observations instead of participant observer ratings and the use of experiments for assessment of a child's intellectual achievement under carefully controlled motivational conditions.

The present study investigated the relationships between the child's dependency interaction with his teachers and the change in his intellectual functioning after eight months of Get Set experience. Specifically, the study was designed to test the following hypotheses:

1. Children with a gain in their level of cognitive functioning as a result of participating in Get Set Programs will: (a) make more realistic instrumental dependency requests of their teachers than children who fail to gain, (b) make more instrumental than emotional dependency demands of their teachers.

2. Children who gain will receive or elicit more positive reactions than other children from their teachers (to their requests for help).

3. Children who gain will make more constructive use than other children of the solicited help and support they receive from their teachers.

4. Children who gain will cope more effectively than other children with failure to receive solicited help (e.g., they try to solicit help from another adult, they try to carry out the activity by themselves, they shift to a different activity 'versus' less effective forms of coping with failure to receive help, e.g., regression and displaced aggression).

5. Children who gain will receive and probably elicit more reinforcement for autonomous goal-directed behaviors from their social environment (e.g., they receive more attention from adults or peers when engaged in autonomous goal-directed behavior).

6. Children who gain will be more successful than other children in learning a problem-solving task under conditions of "intrinsic" reinforcement. This problem-solving situation involved the discovery of a principle in which the child received no other reward or reinforcement than his experiencing a successful outcome of his efforts. The implication of successful learning under this condition of reinforcement is that the child has internalized standards and sources of reward for success in problem-solving situations.[4]

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[4] E. K. Beller and A. Young, Types of Reinforcement and Prior Experience in the Learning of Lower Class Negro Children. Presented at the Annual Meetings of the Eastern Psychological Association, New York City, April, 1966. E. K. Beller, Motivation, Locus of Reinforcement, and Problem-Solving in Children. Presented at the Annual Meetings of the American Psychological Association, San Francisco, California, 1968.

Thirty-six children were selected from the total Get Set sample of 120 children in Philadelphia studied by the University, Head Start Evaluation and Research Center and groups of 12 children each were matched on the basis of changed scores from the fall and spring administration of Stanford-Binet Tests. The first criterion for selection involved matching pairs of children with equal I.Q. scores on the amount of gain and loss. For example, a child with an initial I.Q. of 90 and a gain of seven points, on the re-test was matched with another child who had an initial I.Q. of approximately 90 but a loss of approximately seven points of the re-test. This was done to overcome the regression effect that was clearly evident in the group as a whole. This procedure resulted in three groups of children, one group (N = 13) with gains from four to 18 I.Q. points and a median gain of 10 points, a second group (N = 11) with losses from four to 18 I.Q. points and a median loss of nine points, and a third group (N = 10) with changes that ranged between a loss and gain of three I.Q. points and a median change of -.5 I.Q. points.

Our measure of I.Q. change was based on two administrations of the Stanford-Binet, one early in the fall of 1966 and the other late in the spring of 1967, with an approximate interval of eight months.

Observational data on dependency sequences in teacher-child interactions were obtained through six consecutive 15-minute observations in two situations of the daily educational program in Get Set. (A set of observation categories are included in Appendix A). The two situations were free-play and free-work periods. One of these situations occurred at the beginning of the nursery day, and the second took place prior to lunch. A stratified, randomized design was used to assign children to observation periods and to assign each observer to particular children. The design involved assigning six different observers to each of six observation slots for each child. Eighty-five percent of the observations implemented the design.

In our problem-solving task, the child was asked to guess under which one of three boxes a charm was consistently hidden. The relevant cue to be discovered by each child was middle-sizedness, namely that the charm was hidden always under the middle-sized box, which differed in no other way from the two other boxes. The child was told that there was a way of finding out and guessing correctly in each try which one of the boxes hid the charm. The child was always given 30 trials unless he reached the criterion of six errorless trials earlier in the series. Correction was permitted in each trial and the order of presentation was varied randomly from trial to trial. The child received no reinforcement for success other than his perception of having made the correct response, which led to the discovery of the treasure.

The data presented in Table 12 are of a descriptive nature. The Table is divided into four sections. Section I reports average frequencies of dependency requests made by children of the teachers. It can be seen from inspection of the first three rows that the boys' data clearly support our first hypothesis. Gainers make at least twice as many instrumental help requests, that is, realistic requests for help, than the other two groups. The boy gainers also made twice as many more realistic than emotional dependency requests. Neither of the other two groups yielded such findings. The data for the girls also support our hypothesis but in quite a different way. Here we find that girls who lost in I.Q. made, on the average, less than half as many realistic requests for help than the other two groups of children. However, the girls who gained in I.Q. made less than half as many ploys for negative attention than the other two groups of girls. The data for girls on seeking physical contact were equivocal. Thus, we might conclude that our first hypothesis was clearly supported by our findings for boys and was partially (and indirectly) supported by our findings for girls.

Table 12--Child Teacher Interaction Sequences. Average Frequencies of Dependency Request by Children, Responses from Teachers and Reactions from Children Who Gained, Lost, and Showed no Change in Stanford-Binet Performance from the Beginning to the End of a Year's Attendance in Head Start Classes

	Boys			Girls		
	Gainers (N = 4)	Losers (N = 7)	Non Changers (N = 6)	Gainers (N = 6)	Losers (N = 7)	Non Changers (N = 4)
Instrumental vs Emotional Dependency			Section I			
Seeks instrumental help	10	4.9	1.1	5.0	1.7	10
Seeks negative attention	4.8	3.3	.7	.7	1.7	4.2
Seeks physical affection	4.5	3.7	.8	7.3	2.6	8.5
Teacher Responses			Section II			
Positive teacher responses	15	7.6	2	10	4.1	14
Child's Response to Teacher			Section III			
Constructive reactions to teacher's response	24	10	3	11	7	2.8
Regressive and displaced aggressive reactions to teacher frustration	.2	.6	0	.2	0	1.2
Attention Received for Autonomous Behavior			Section IV			
Adult approaches	8.2	3.9	2.3	6.0	5.0	2.3
Peer approaches	10.2	5.7	5.6	5.8	4.4	5.7

Section II in Table 12 deals with the teachers' reactions to the children's requests for help. We find that the data support our second hypothesis. Boys who gained received at least twice as many positive reactions from teachers than the other boys in the sample. Once more, the evidence for girls also supported our second hypothesis, but only indirectly. Girls who lost in I.Q. received less than half as many positive reactions from teachers than the other girls.

Section III of Table 12 deals with children's reactions to teachers' responses. In support of our third hypothesis, we find that boys who gained made more, that is twice as many, constructive reactions to teachers' responses than the other boys. The data for the girls supports our hypothesis as directly as the data for the boys, but not as strongly. The next part of the third section deals with regressive reactions by the child to the teachers' responses. Although the average response frequency is rather low for this category, the data clearly supports our hypothesis for boys but not for girls. Boys who lost in I.Q. exhibit more regressive and displaced aggressive behavior in response to teacher's failure to meet their demands than the other boys. The data for the girls fail to support this hypothesis.

Section IV of Table 12 deals with the question of whether children who gain received more attention than other children from their social environment when they were engaged in autonomous achievement striving, that is, self-sustained, goal-directed behavior. As can be seen from the last two rows of Table 12, boys who gained when they engaged in self-sustained autonomous activities received at least twice as much unsolicited attention from their teachers than other boys, and about twice as much unsolicited attention (regardless of quality) from their peers than other boys. The data for girls are in the predicted direction for attention from teachers, but not markedly so. However, once more we notice that with regard to unsolicited attention from peers, the support for our hypothesis comes from the girl losers rather than from the gainers.

Our data concerning relationships between a child's ability to gain from his Head Start experience and his success in problem-solving under conditions of intrinsic reinforcement is presented in Figure 1. It can be seen from this figure that children who gained in their intellectual performance from the beginning to the end of Get Set manifested better problem-solving performance over 30 trials than the other children.

It is evident from the preceding section that our intensive observational study and the employment of an experimental learning task supported, and more importantly clarified, some of the major concepts and findings in our longitudinal research reported earlier. The child who gains from his educational experience in the Get Set program differs from other children in the program in his readiness to make realistic demands for help and not in the intensity of his emotional or motivational dependency on the teacher. Thus, our concept of instrumental dependence has more to do with dependency conflict than with emotional dependence. The findings in Sections II and III of Table 12 further support this conclusion. The child who gains from Head Start not only makes more realistic demands on his teacher than other children, but also receives some more positive reactions from the teacher and copes more effectively and constructively with the teacher's reaction to him than other children.

With regard to autonomous achievement striving, we gained important information from our intensive observational study. In summary, we found that children who gained in their intellectual achievement in Head Start received more encouragement from the social environment for being independent and self-sufficient in their activities, and that these children performed better than other children on a learning task when they have to rely on the success of their endeavor as the sole source for their reinforcement, or to put it another way, when they have to make the learning process a self-rewarding one. The implication of these findings for educational planning are the same as the ones stated on page 14 of our report of the longitudinal research. Programs for the disadvantaged child need to focus on helping these children develop greater trust in the adult environment and thereby overcome their inhibitions and conflicts over turning to the protective adults for support. These children need to be encouraged when they behave autonomously or self-sufficiently and to be given ample opportunity for experiencing success in problem-solving situations so that the learning process may gradually become a self-rewarding one for them.

The final section of my report will deal with relationships between data gathered on a national sample of Head Start children and our own data in the direct observational study. This step was possible because we selected children who were part of the national sample for purposes of our own study. We felt that the soundness of our own work would gain considerably if relationships between our own data collected in an intensive study on a small sample of children would relate in a meaningful way to the data collected less intensively in the national study but of a much larger sample of children. The particular measures taken from the national study will not be described in detail here. For detailed information on each of these measures, the reader is referred to the report for 1966-67 by the Institute for Educational Development.

The findings of this analysis are all based on Mann-Whitney U tests or on "t" tests.

Children from crowded homes made fewer realistic demands for help from the teacher ($p. < .10$) and were less effective in evoking a reaction from the teacher to their demands ($p. < .10$). These children from more crowded homes also made less constructive use of the help they received from the teacher in response to their requests. When engaged in their own activity, the same group of children were less distracted by other children. This first cluster of findings strongly suggests that the child from a lower-class, crowded home has a less intensive relationship with the teacher in the Get Set Program.

A factor analysis of the behavior inventory employed in the national study yielded several factors. We investigated the relationship of these factors to our own data. We found that children who were high on a factor of impulsivity, excitability and defiance were less effective in getting the teacher's attention. The same children had greater difficulty continuing their on-going activity when another child or adult entered their field of action. This finding suggests a vicious cycle. The impulsive, excitable and defiant child has difficulty in relating with others. However, the adult is less responsive to this child, even when the child makes an attempt to enter into a relationship with his teacher. Thus, the very difficulty becomes self-perpetuating.

Children who are rated high on inhibition, withdrawal and mistrust of others on the behavior inventory, exhibited fewer positive attention-getting responses toward teachers than other children. This finding may be considered an independent validation of the behavior inventory by our method of direct observation.

The national study made available to us data concerning the behavior of teachers through the Observers Rating Form. We were particularly interested in relating the characteristics of the teachers of our children as measured by the observational technique in the national study to the success of our own children in learning a cognitive task under conditions of Task Intrinsic Reinforcement. We found that the children of teachers who used better and more diversified techniques of teaching and children of teachers who cultivated more respect for the rights, possessions, and idiosyncrasies of others, learned our problem-solving task better under conditions of Intrinsic Reinforcement than children from other teachers. A similar trend was found for children of teachers who exhibited greater respect than other teachers for the child's family ($p < .10$). Interestingly, the same characteristic of teachers, that is, showing respect for the child's family, was very significantly associated with a child's readiness to gain from the educational experience in the classroom. In other words, more of our children who showed a positive gain on the Stanford-Binet came from teachers who manifested more respect for the child's family. Here may be an important link between the classroom and the family which deserves a good deal of attention in continued efforts of educational programs for lower-class, disadvantaged children.

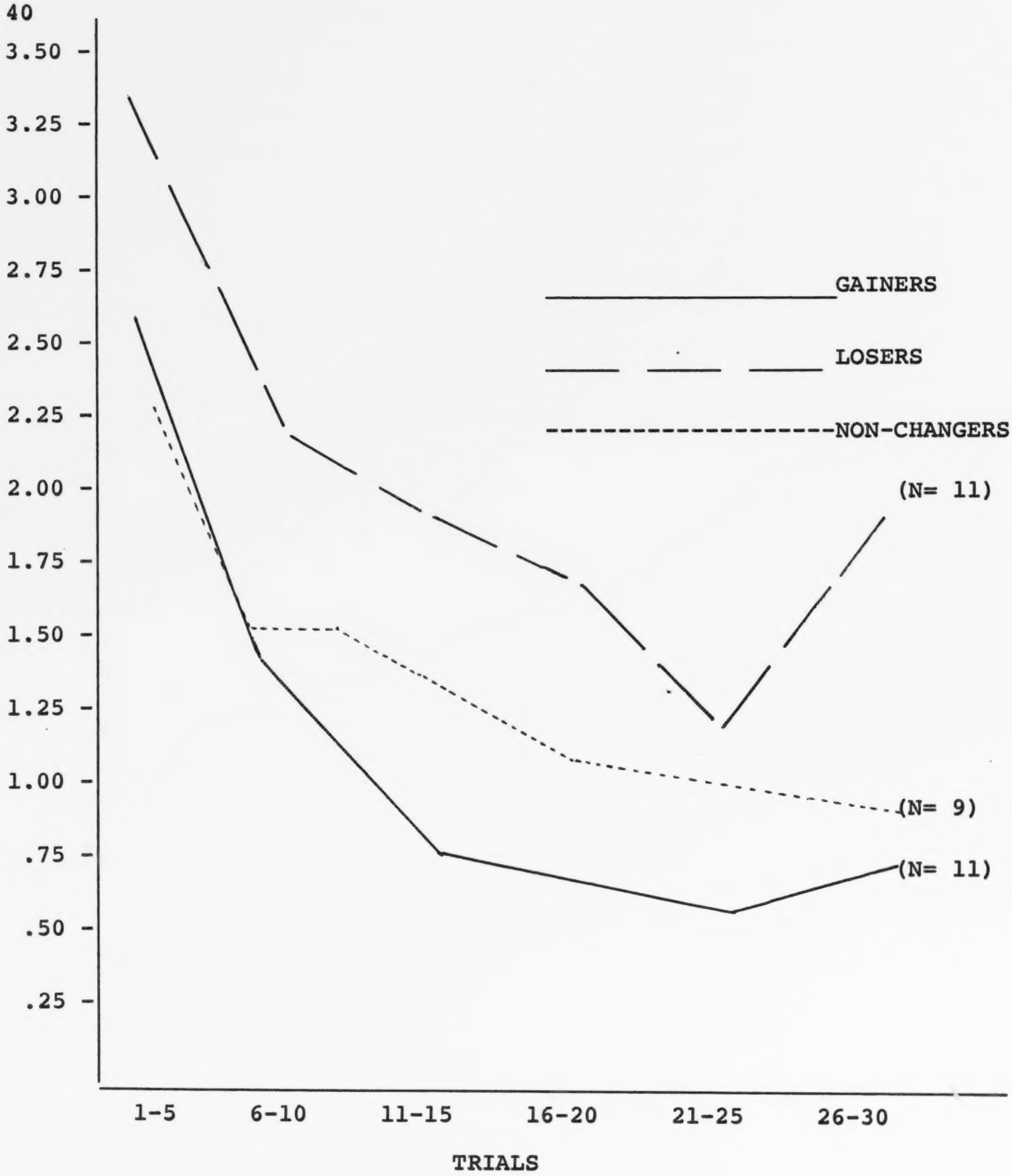

Figure 1. Average Number of Errors over 6 Blocks of Trials for 3 Groups of Head Start Children

APPENDIX A

CATEGORY DESCRIPTIONS:

PUPIL BEHAVIOR

1. Instrumental behavior: Seeks services, information, materials, permission for non-routine activities.
2. Positive attention getting mechanism (+AGM): Seeks recognition, greeting, praise, reassurance, attention.
3. Negative attention getting mechanism (-AGM): Does that which the teacher has just requested not be done. (Try to separate this from mere peer interaction. This can be done by noting the amount of attention given the teacher as compared to that given the peer.)
4. Ambiguous attention getting mechanism (± or 0 AGM): Attention getting with both positive and negative aspects to it; e.g., doing the right thing at the wrong time or in the wrong way. Tattling: AGM that can't be classified readily as either positive or negative.
5. Body contact: This is assumed to be positive: (If you spot any negative B.C.; i.e., hitting, biting, scratching, write in a subscript N with your scoring numeral.) leaning on, touching in any + manner.
6. Proximity to: Child locates self near adult, for no other reason than proximity. Plays near adult when this play could be carried out elsewhere. Sits beside adult.
7. Glances at: Instances of fleeting glances at adult, each glance within 5 seconds of the preceding one. Stares at adult for 20 seconds.

CHILD'S INITIAL BEHAVIOR

Instrumental behavior: Seeks services, information, materials, permission for non-routine activities.

Positive attention getting mechanism (+AGM): Seeks recognition, greeting, praise, reassurance, attention.

CHILD'S INITIAL BEHAVIOR continued

Negative attention getting mechanism (-AGM): Does that which the teacher has just requested not to be done. (Try to separate this from mere peer interaction. This can be done by noting the amount of attention given the teacher as compared to that given the peer.)

Ambiguous attention getting mechanism (± or 0 AGM): Attention getting with both positive and negative aspects; e.g., doing the right thing at the wrong time or in the wrong way. Tattling: AGM that can't be classified readily as either positive or negative.

Body contact: This is assumed to be positive: (If you spot any negative B.C.; i.e., hitting, biting, scratching, write in a subscript N with your scoring numeral.) leaning on, touching in any + manner.

Promimity to: Child locates self near adult, for no other reason than proximity. Plays near adult when this play could be carried out elsewhere. Sits beside adult.

Glances at: Instances of fleeting glances at adult, each glance within 5 seconds of the preceding one. Stares at adult for 20 seconds.

TEACHERS' RESPONSES

+ Positive response:

Gratifies child's instrumental request.

Acknowledges child's presence by a smile, remarks positively on child's comments.

Distracts in a pleasant manner.

Positive body contact.

Jokes with child.

0 Ambiguous response:

Ploy is ignored.

Child's request is not noticed.

- Negative response:

Child is rejected or request is rejected.

Request is ignored by adult who is stressing her goals; e.g., child wants praise for his picture; teacher ignores picture and tells child to hurry to clean up.

Mixed Responses:

± Teacher gratifies, then scolds or withdraws gratification.

$\overset{+}{o}$ Teacher promises gratification when her current task is finished; i.e., child is asked to wait.

$\overset{o}{+}$ Child is ignored, or his request isn't heard; but gratification comes eventually.

∓ Teacher scolds or denies gratification and finally gratifies.

REACTION OF CHILD TO TEACHER RESPONSE

Waits patiently: adult is busy with someone, or something else. Child just stands or sits until adult is finished.

+ Teacher has agreed to help, but pupil must wait until adult has finished what she's doing; again just stands or sits.

Waits repeating same ploy: continues talking after teacher has replied, (divide by 2 if it is on the same topic).

= continues raising hand after a peer has been called on.

= continues misbehaving, looking at adult, body contact.

= if teacher's response has been 0, 30 seconds must pass before rescoring behavior #5, #6, #7; for behaviors #1, #2, #3, #4, wait 10 seconds before rescoring. In case of rescoring divide total by 2.

Waits trying other ploys with the same adult: Asking or commenting on a different topic.

= misbehaving in a different way

= switches behavior category

Returns to an occupation previously engaged in (any occupation engaged in previously during this 15 minute observation).

Starts new occupation, something he hasn't done yet during this 15 minute period.

Starts doing the goal of his request.

Solves instrumental request himself.

Rejects gratification, at least momentarily.

Leaves satisfied, wanders or sits for 3 minutes without any any further interaction.

Leaves not satisfied: child is interacted with before he can initiate his reaction to his teacher's response.

Leaves without satisfaction, wanders or sits for 3 minutes without further interaction.

Makes instrumental request of adult other than the adult initially approached.

Makes instrumental request of a peer.

Makes emotional request of adult other than the adult initially approached.

Makes an emotional request of a peer.

Leaves dissatisfied and regresses: cries, sucks thumb, masturbates, withdraws.

Leaves dissatisfied and displaces aggression: hits, bites, kicks someone other than the denier.

= speaks crossly

= behaves hostilely to another

AUTONOMOUS ACHIEVEMENT STRIVING (AAS)
QUALITY OF INTERACTER'S INTERACTIONS

+ Adult or peer comments positively concerning the subject's AAS.

0 Adult's or peer's comment to the AAS occupied subject is neither strongly + or - concerning his activity.
= The comment doesn't refer to his activity.

± Mixed: The adult's or peer's comment to the AAS occupied subject continues both positive and negative aspects concerning the subject's activity.

- Adult or peer makes a disparaging remark about the AAS activity on the subject.

D Disruptive: Adult or peer comment is aimed at disrupting the subject's activity; e.g., "Stop that!" "Let me do that." "Put your things away."

RESULT OF THE INTERACTION OF THE ONGOING ACTIVITY: (Same for both adult and peer)

C = Continues AAS (May pause momentarily to interact, but goes directly back to AAS)

D = Distracted from AAS - quits, shifts to new activity, wanders off.

F = Interaction comes at end of AAS; i.e., child quits because there's no more to task, not because he was distracted.

QUALITY OF AAS

Group AAS = score in this top AAS block if the child has another or other children engaged jointly or in parallel AAS.

Individual AAS = score in this bottom AAS block if the child is working by himself.

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Seminar #4

HEALTH AND NUTRITION IN EARLY CHILDHOOD

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RESEARCH ISSUES IN CHILD HEALTH I:

AN OVERVIEW

by

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SOME RESEARCH ISSUES
IN HEALTH AND NUTRITION IN EARLY CHILDHOOD

Ill health is one of the burdens that can keep a child from fully exploiting his environment, whether that environment be impoverished or enriched. For this reason, health, and its precursors such as nutrition, must be a major concern in any program aimed at augmenting child development.

But what should be the dimensions of such concern? A "physical" and a vitamin pill? Or perhaps a nurse or physician in every home or classroom? These extremes illustrate in caricature the type of question which must be addressed in defining research issues.

What do we really need to know about health and nutrition to assure that no infant, toddler, or pre-school child is impaired in his ability to fully exploit his environment? What parts of this necessary knowledge are now available for widespread application? What parts are still to be discovered or documented? On what parts of the unknown should we concentrate our investigative attention either because they are basic to our further understanding or because they appear ripe for rapid discovery?

Ideally, one wants to know everything about each problem. But we must have priorities. And, in determining what to consider as a research issue for this discussion, I have chosen a priority system based largely on social mandate.

To be "important" or an "issue" in this sense, the problem must have three characteristics. It must have a significant impact on the real life function of the child, it must affect a significant number of children, and there must be some possibility of intervention that will prevent, cure, or ameliorate it. By these criteria, many currently popular research problems don't qualify as "issues." Even if we allow a small number of affected children to be offset when a problem has a major impact, I would point out that I do not make a distinction between basic and applied research, but between the importance, in a social sense, of the subject to be studied.

The "issues" in health and nutrition, as they apply to the pre-school child, can be categorized in the answers to four questions:

1. What are the functionally important health problems to be found with some frequency in a group of children?
2. What treatment or intervention techniques will be most effective in preventing or remedying these problems?
3. What techniques will efficiently identify the children who are in need of preventive or remedial services?
4. What resources--financial, manpower, administrative, organization--will be necessary to prevent, identify, and remedy these problems?

Each question can be approached in terms of what is already well enough known to be more widely applied, what still needs to be discovered, and which parts of the unknown have the highest priority for exploration in the immediate future.

"What are the health problems to be found in a group of young children?

We are concerned with: 1) the gross incidence or prevalence of health problems--medical, dental, and psychological--in young children, 2) the functional importance of the problems, 3) the distribution of these problems in various groups of young children--especially socio-economically defined groups, and 4) the amount and effectiveness of the care which the children with problems are already receiving and will require in the future.

We have reasonably adequate data about the gross prevalence in a population of pre-school children of the types of health problems that are traditionally identified through screening tests, medical histories, medical examinations, and dental examinations.[1-5] For example, approximately 10% of preschool children will fail a vision screening test and 1%-3% will require glasses. Seventy to 80% of the children in a community without fluoridated drinking water will have dental decay requiring treatment, while only 30 to 40% of pre-school children drinking fluoridated water will show such decay.[6] Congenital heart disease affects 2-5 children per 1,000,[7] but at least 10 times that many will have heart murmurs for which the examining physician may wish a specialist's evaluation. Such figures are extremely useful for program planning. They are well enough known to be more widely disseminated, and attempts have been made to do so.[1-5,8]

However, such data are not as useful as they might seem. For, while many medical abnormalities noted in interview, examination or by laboratory or functional test are clearly "health problems," there are many other medical conditions or findings which cannot be considered as "health problems" because they have no impact on the present or future function of the child. And, there are many other conditions about which we are uncertain.

We have enough data to state, rather categorically, that enlarged tonsils,[10] "intact foreskin," and the vast majority of umbilical hernias[12] are findings which are not problems. For such conditions, physician and parent pressure for unnecessary treatment rather than the condition itself must be considered to be the real problem.

The low hemoglobin concentration of iron-deficiency anemia is a frequent finding in poor infants and pre-school children. But we are not at all certain to what degree, if any, a child with mild anemia is handicapped or even how his anemia can be measured most meaningfully. At what level of hemoglobin is growth, disease resistance, or learning ability actually impaired? Or is serum iron or mean corpuscular hemoglobin concentration, not hemoglobin, really the salient variable? Is lowered hemoglobin the mechanism by which iron deficiency impairs function, or just a convenient indicator of the iron-poor state of many enzyme systems, cells and organs? Is iron deficiency anemia a useful index of other nutritional deficiencies--vitamins, protein, other minerals--or a function largely independent of other nutritional variables? Is anemia or low serum iron in the pre-school child an indicator of inadequate concurrent dietary iron intake or really primarily a residuum of the widespread sub-marginal iron intake which is known to occur in the first year of life? Or is iron deficiency anemia merely an indicator of a complex socio-emotional relationship between mother and child that results in both overfeeding of milk and lack of cognitive social stimulation?[13]

Answers to such questions are both easy to obtain and of enormous practical importance. If the mild degrees of iron deficiency anemia, which are present in so many children, are causally related to poor health or function, as seems likely,[14] then simple and cheap preventive and curative intervention on a national scale through iron supplementation could have a tremendous impact. If such low hemoglobin and serum iron values are merely interesting laboratory findings with no functional importance, or are concomitant findings in a more complex matrix of child rearing variables, then such intervention is clearly unjustifiable.

While we know too little about the effects and interrelations of iron deficiency anemia, we know even less about deficiencies of other nutrients, except when these occur in their most gross states. When measured against such arbitrary standards as the Recommended Daily Allowances, the diets of a huge proportion of our child and adult populations are considered "inadequate." Are children and adults with such diets actually functionally impaired in some way? Or are such statistics merely a reflection of unrealistic Recommended Daily Allowances?

Biochemical measurements of nutritional status are currently being carried out on populations of children living

260

in the United States. Preliminary reports reveal very little measurable malnutrition, even in groups of children in the most abject poverty. But, of course, biochemical measurements of other nutrients have the same limitations as measurements of hemoglobin. At what level can a biochemical measurement be considered abnormal, in that it is associated frequently with abnormal function? Do biochemical measurements actually correlate with dietary intake? Does intervention with foodstuffs or with vitamin or mineral supplements actually affect the biochemical measurements or the functional abnormality? We can certainly justify nutritional programs on humanitarian and aesthetic grounds, but the very existence of functionally important malnutrition in populations in the United States remains an open question.

"Speech problems" are reported with high prevalence in groups of young children. But when is a speech problem functionally important and when does it become an issue--by our definition--because there is some possibility of useful intervention? Many pre-school children have immature articulation patterns which have been shown to change to normal speech between age 5 and age 7 without special intervention, and for which the special skills of the speech clinician have been shown to be unnecessary.[15] Is the remarkable diminution of such articulatory speech problems at these ages just a matter of passage of time? Or is it the new social setting of school, or perhaps the amount of attention payed in the first years of school to translating vocalized sounds to written symbols? It seems quite possible that children learn to articulate clearly as they learn to read, and this could have major implications for improving more serious speech disturbances at younger ages, for teaching children whose first years of school do not teach them to read, and for reconsidering the concept of "readiness" for either reading or speech training.

Besides such developmental articulatory speech problems, many children have speech and language patterns which conform to sub-cultural pronunciations and usages rather than to standard English, while others have speech or language impaired by abnormalities of the hearing or speech apparatus or associated with abnormal central nervous system function. Does dialectal pronunciation interfere, per se, with function or learning? How frequent are the various structural impairments and which interventions work?

The incidence of "mental health problems" discovered in a group of pre-school children depends almost entirely upon the orientation of the examiner. Unfortunately, there are few normative data available about the behavior of poor pre-school children. Nor are there many data available to suggest which types of behavior in a pre-school child predict the behavior and learning problems which are so common in later school years. Intervention or treatment techniques with proven effectiveness are also lacking. Should an opinion, even that of an expert, that a child is "abnormal" be considered to represent a health problem when "normal" is undefined and there is no evidence that what is being called "abnormal" can be modified or even that it will cause any future problem?

There is widespread opinion that structural or functional abnormalities of the central nervous system, related to biological events in pregnancy, child birth, and early childhood ("brain damage," "brain dysfunction," "cerebral dysfunction," "organic"), are a major contributing cause of a substantial proportion of the behavior and learning disabilities manifested by school-age children. There is also widespread opinion that children with such neurologic abnormalities can be discovered in infancy or early childhood by various tests of neurologic function, and that specific types of educational intervention, or even drug treatment, can substantially decrease the later burden of learning and behavior problems. But, despite the proliferation of publicity and of institutionalized intervention programs, we do not yet have knowledge which clearly links learning and behavior disabilities with insults to the central nervous system, we do not have tests which validly predict which groups of children will later show learning or behavior disabilities, and we do not have intervention techniques of proven effectiveness in improving the function of such children.

These examples show that the definition of what is a "health problem" is no easy task.

How are health problems distributed within the population of young children? The Negro-White differences in incidence so frequently noted in this country are presumably based largely on socio-economic status rather than race, per se. In Great Britain, where race is constant but socio-economic status is routinely recorded in health records, there is strong evidence that low socio-economic status is associated with a higher incidence and prevalence of many health problems.[3] Most dramatically, serious lower respiratory infection is ten times more common in children of the lowest socio-economic status than in children of the highest socio-economic status. What mechanisms mediate this difference? It is not simply exposure to infectious agents, for the same viruses are found with approximately the same incidence in all social groups; and it is not medical care, per se, because physicians have essentially no effective tools for preventing or modifying these viral lower respiratory infections. Is it nutritional status? Anemia? Physical activity? Child rearing practices? Or, is it combinations of many contributing factors? If the incidence of such serious lower respiratory disease in the entire population could be lowered to the incidence of the higher socio-economic class, a substantial proportion of infant and childhood mortality, and an even larger proportion of infant and childhood morbidity and hospitalization would be prevented. And if we understood the mechanisms by which social class exerts its influence, we might be in a better position to break the cycle of poverty.

The present utilization and future need for health care is an important consideration in program planning. In Head Start, about 80% of the health problems found were newly discovered during the Head Start program; about 25% of these were not thought to require further care. Other studies have shown that about 40% of children with chronic handicapping illness were receiving no care or inadequate care.[2] Some investigations into the reasons for such lack of care will be discussed later in this paper.

Thus, to answer the question "What health problems will be found in a group of pre-school children?", we have adequate information on the gross incidence and definition of many problems. We are in need of much clearer information about the incidence and functional importance of anemia, poor nutrition, speech problems, and the precursors of behavior and learning problems. And we need vastly more knowledge of the mechanisms through which socio-economic status affects the incidence and severity of disease.

The questions about anemia and speech problems seem ripe for almost immediate solution because tools and concepts to provide the necessary answers are already at hand.

"What techniques will efficiently identify the children who have functionally important health problems?"

Once a "health problem" has been defined, there are several possible approaches to identifying which problems exist in which individual children. Among these approaches are the traditional medical evaluation or "history and physical" performed by a physician, screening tests performed by non-physician personnel, questionnaires completed by parents or children, interviews by non-physician personnel, and systematic observation by teachers or others who have prolonged contact with the child. Teachers may identify health problems either by completing standard questionnaires or check-lists or by noting and referring individual children with deviant behavior or parent health problems.

Examination by a physician, dentist, or other specialist traditionally has been considered the most certain way of identifying health problems, and it is usually the standard against which screening tests, questionnaires, or other identification techniques are judged. The physician's evaluation can be thought of as a series or a branched program of individual questionnaire and examination items, each of which is capable of discovering a certain proportion of certain types of health problems.

Which of these individual items and what combinations are most effective in identifying the presence of any health problem or the nature of a specific problem in children of any particular age group is largely unstudied, as is the reliability and validity of each item in the history and physical examination. Beginnings have been made in Wishik's[4] study of handicapping conditions, and analysis of multiphasic screening programs for children should provide further information which could improve the efficiency and effectiveness of the physician's interview and examination.

Screening tests are individual items or small groups of items of interview questions, observations, or laboratory procedures which are applied to groups of persons to identify individuals with a high risk of having some particular health problem. To be useful for screening, a procedure must be economical in time and material costs, reliable in the hands of non-professional personnel, and valid in predicting the presence or absence of a health problem. Even among the few screening tests currently used, few fully meet these criteria. The tuberculin test is an example of one that does. Tests for anemia can be technically reliable and valid, but we have yet to form an adequate definition of anemia. Routine urinalysis produces such a high yield of abnormal tests in relationship to the number of treatable medical problems finally discovered, that many doubt whether it has any usefulness whatsoever as a screening test, at least in childhood. Quantitative urine culture appears efficient and effective in discovering important urinary tract infections, but it requires special equipment and skills that are not yet widely disseminated.

Even tests so widely used as the various screening tests of visual acuity, though quite reliable, are of unknown validity. While we know that 8%-10% of pre-school children will fail to pass the screening test, we do not know what proportion of the children found abnormal by the screening test will actually benefit from early discovery or treatment, nor how many children will be missed by such a test who actually might benefit from immediate treatment. It is possible that non-testability, or inability to learn the task presented to the child by the vision test, will predict learning or reading disabilities more validly than visual acuity as measured by the test predicts remediable eye problems.

The speech of a deaf child is different from that of a child with athetosis and different from that of children with so-called developmental articulation problems, or with dialectal pronunciation. There is substantial data about which errors and substitutions in speech are made by children with impaired speech due to different causes. This information, if systematized and disseminated, could allow physicians, teachers, and even speech clinicians to more accurately assess children's speech and could probably be the basis for screening tests applied by non-professionals.

Questions posed to parents on a printed questionnaire or by a non-professional interviewer can identify children at high risk of having health problems. One household survey[2] revealed that nearly 50% of children under age six were considered by their parents to have some handicapping condition. Clinical examination confirmed the presence of some abnormality in 80% of such children, while only 32% of the children considered normal by their parents showed any abnormality on examination. Most of the conditions found on examination would not be considered "health problems" by the criteria described in the introduction, but nearly 20% of the children reported by their parents did have a condition which caused a moderate or severe functional handicap.

Teachers, with their prolonged opportunity to observe children in close proximity to other children of the same age and usually of the same social class, should be in a better position than parents, or even physicians, to identify children whose appearance or behavior deviates importantly from that of other children. The reliability and validity of such screening by teachers should be quantitatively evaluated.

Easily applied reliable criteria for identifying children with learning problems or behavior problems or with a high probability of developing such problems in the future would be of enormous usefulness. Screening tests for retarded or distorted behavioral development have been devised and used widely, but their predictive validity has not been established.

In summary, we appear to have adequate screening tests for identifying tuberculosis, anemia, urinary tract infection, and hearing loss. With current knowledge we are in an excellent position to develop much better tests for remediable speech defects and for vision problems.

The physician's history and examination, while pragmatically clearly extremely useful, can certainly be refined and made much more precise and efficient by systematic studies of what questions and what examinations yield what type of information about what kinds of health problems. Parent and teacher's questionnaires show great promise in identifying health problems but require scientific validation. Tests or examinations which validly identify or predict behavior or learning problems would be of the utmost usefulness.

"What treatment or intervention techniques will be most effective in remedying the problems as defined and discovered?"

Discovering health problems or defects is of only academic interest if no methods exist to treat or alleviate the conditions discovered. Treatment or alleviation need not imply complete cure, for relief of concern or guilt may represent as great a gain in health as elimination of a pathogenic micro-organism. For example, careful explanation to a parent of the benign nature of a previously identified heart murmur does nothing for cardiac status of the child. But it may relieve a great deal of parental anxiety and may remove unrealistic inhibitions placed on the child's activities.

Rational therapy must be based on a careful weighing of the relative costs and risks of each possible treatment regime and of no treatment. For only a few medical conditions is data adequate for such a judgment. Primary tuberculosis is such a condition. Once a young child has been shown to have a positive tuberculin test, his chances of developing progressive pulmonary or extrapulmonary tuberculosis, though small, are quite real and predictable. Treatment with isoniazid reduces this risk by 75% to 80%.[16] The cost of isoniazid treatment is easily predictable, and the risks of treatment are both well known and extremely small in magnitude. When such knowledge is available, the cost and risks of treatment can be compared directly with the cost and risks of no treatment, and a rational decision can be reached.

But for most medical conditions, knowledge of the risks is not nearly so clear. Bronchial asthma is a frequent and distressing cause of disability in children. While immediate symptomatic treatment can always be justified, the justification for long-term treatment is not so clear. The course of the disease, when no long-term treatment is applied is not accurately known or predictable, even in a statistical sense. The effectiveness of each type of treatment--hyposensitization, environmental controls, dietary restrictions, medications--is not known, nor are the risks and costs of each type of treatment or combination of treatments known. The decision for or against any type of long-term treatment for bronchial asthma must, therefore, be based on much weaker evidence than that which is available for such conditions as tuberculosis.

For some widely used therapeutic techniques, the data available not only fail to support claims of efficacy, but go far towards indicating ineffectiveness. Tonsil and adenoidectomy and umbilical hernia repair have already been mentioned. Many studies have tried to establish the effectiveness of psychotherapy in relieving psychiatric or behavior disorders. The majority of such studies have not shown psychotherapy to be effective.[16] Special classes for children with various educational problems have become widespread phenomenon, yet there is very little evidence that segregating children with special learning problems from their peers results in more learning for either group. In the real world, decisions must be made even in the face of scientific uncertainty, and the full range of negative evidence is only rarely arrayed against tradition and anecdotal reports of success.

"What is effective treatment?" is a question that is constantly asked in current research, and we can expect answers that increasingly approximate the truth. But, as long as we lack precise data on the relative risks and benefits of intervention for many conditions, our most important need may be that every physician or other therapist systematically evaluate and re-evaluate the effects of his therapeutic interventions on the actual health and function of the children he serves. Such systematic "feedback" will go far toward eliminating both harmful and ineffective treatments.

"What resources--financial, manpower, administrative, organizational--will be necessary to prevent, identify, and remedy important health problems as they exist in a group of children?"

We know very little about the dollar cost of protecting and enhancing a child's health. Estimates have ranged from $15 or $20 per child per year to $300 or more per child per year. Project Head Start spends about $70 per child per year on medical and dental services, but this figure cannot be considered to

5

represent true costs. Some Head Start programs pay for health services almost entirely with funds available from other sources or obtain free services. Others must purchase nearly all services on the open market. Some actually succeed in providing all necessary care to all children, while others miss many children, thus lowering their average costs. Head Start medical and dental services usually must make up for a backlog of medical and dental care needs.

There are no published studies of the actual total costs of bringing all needed health services to all children in a defined community. Planners, legislators, insurance companies, and even parents are desperately in need of such information. It seems likely that a total annual cost would fall someplace between $100 and $200 per child, using current "private practice" charges and delivery methods.

How many health workers with what kind of training will be necessary to provide such services? A pediatrician in private practice supported by one or two ancillary workers usually cares for the children of approximately 1,000 families. Do the health needs of children seen in private practice require approximately the same amount of physician time as the health needs of children in other parts of our population? Could the pediatrician extend himself to care for more children by hiring more helpers or by delegating more parts of his job to his present helpers? Are helpers with new kinds of training needed? Current "standard wisdom" would answer each of these questions "yes," but current opinion is not based on any scientific evidence.

Prevention is nearly always both more humane and more efficient than treatment. A single dose of measles vaccine provides more than 96% certainty that the vaccinated person will not experience measles at any time in the future and, therefore, that he will not require physician care for measles, nursing care for measles, medication for measles, or any other services for measles.

The addition of fluoride to water supplies reduces the incidence and severity of dental decay to 50-70%, drastically revising the need for dental manpower and the cost of dental treatment. Clearly, every child health problem must be addressed, not only in terms of how can it best be treated but how circumstances can be arranged to obviate the need for care.

Will broad social programs in housing, income maintenance, employability assurance, and education actually bring the health care needs of all of our population down to the low level enjoyed by its present most affluent members? Can health education, which seeks to get parents and children to eat nutritious foods, seek preventive medical care and early treatment for health problems, prevent accidents, and promote personal cleanliness, toothbrushing, etc., actually improve health and reduce health care needs? Or can such educational programs actually have no impact on the way children and adults behave? Up to the present time we do not know, but traditional health educational approaches are not well supported by either measurements of their results nor by theoretical analysis of their techniques in the light of modern learning concepts.

We do know, from experience and research, that peoples' patterns of seeking health care can be changed. The attitude of parents of low socio-economic status toward health care appears to be similar to the attitude of people of more fortunate background.[18,19] Their participation in health care is lower because they have many other needs of higher immediate priority, and because the services offered the medially indigent population in most communities are inaccessible in terms of time and distance, expensive in terms of time and money, and often unacceptable in terms of human dignity. When health services are made convenient, available, and accessible, and are administered in a way to protect the time, money, and dignity of the recipients, they are avidly utilized by populations previously called "unreachable."

It seems likely that it is not the attitudes, expectations, and priorities of those who fail to obtain medical care that need to be changed so much as the attitudes, expectations, and priorities of the providers of medical care. We certainly know as little about effective techniques for provider education as we do about effective techniques for consumer education. But experience, which cannot yet be considered scientific evidence, does suggest that when the planners, providers, and organizers of medical care are advised by formally organized groups of consumers or recipients, the services provided are changed and become more widely utilized. And when providers are placed in an administrative setting which allows them, or forces them, to modify their activities experimentally, they accept and act on the results of the experiment. As an example, the cardiology clinic of a children's hospital instituted telephone reminders, personalized reception of patients, staggered appointments and continuity of patient-physician relationships and reduced its incidence of missed appointments from 50% to 10%, with more satisfaction of both patients and staff.

Many commentators, when faced with populations which do not practice all recommended nutritional, preventive medical or health care practices, state blandly that the problem is "educational." If they mean that the dissemination of information and the use of motivational tricks will make the people behave the way experts think they ought to behave, such commentators are clearly wrong. But, in another sense, the problem is one of education or learning. In its most global definition, education is the modification of behavior through experience--as such, it describes a feedback system in which results are evaluated against goals and behavior reinforced or extinguished accordingly. And such feedback systems, learning systems, or educational systems do, I believe, represent the real answers to our problems. The "experts" must learn to acquire and interpret the data about where the real problems of health and health care lie. Each provider and recipient must learn to interpret his own successes and mistakes. Organizers and educators must learn to provide environments in which such feedback and behavior modification can take place, and we all must learn how to persuade both individuals and political bodies to act responsively to factual data.

SUMMARY

The answers to four questions one must ask in planning to meet the health needs of any group of children define some of the most important research issues in child health.

1. What are the functionally important health problems to be found with some frequency in a group of children? Many are well defined and easy to count, and for some of these we have relatively good counts. While we know that the prevalence of many health problems is related to socio-economic status, we know practically nothing about the mechanisms by which this relationship is mediated. There are certain health findings--for example anemia, poor dietary history, and certain deviations of behavior and speech--that we are reluctant to label as health problems until we have much more evidence about their actual functional consequences. There are certain health problems, especially the behavior and learning problems of school-aged children, that we would like to be able to define in terms of findings at a much earlier age.
2. What techniques will efficiently identify those children who have functionally important health problems? We have a handful of effective and efficient screening tests, as well as several that are widely used but need much further definition in terms of reliability and validity. The series of

tests and questionnaire items which are strung together in a physician's history and physical examination certainly falls into the category of tests whose reliability and validity needs vastly more study. All of the descriptive and predictive tests of behavior and learning, as well as of nutrition and speech, need much further validation before they can be recommended for widespread use.

3. What treatment or intervention techniques will be most effective in remedying these problems? This is the real of traditional medical research, and we know a great deal about many of the specific health problems which are to be found in children. However, rarely are we able to critically weigh costs and benefits of one form of treatment against the costs and benefits of another form of treatment or of no treatment at all. Much of the data we will need to make such logical decisions will come from studies of the natural history of illness and from double blind studies of various forms of intervention, rather than from the currently popular studies of molecular biology and pathophysiology. A continuing problem is the perpetuation of ineffective intervention techniques--bed rest, tonsillectomy, much psychotherapy--because of the humanistic urge to "do something to help," even when we don't know that what we do actually helps.
4. What resources--financial, manpower, administrative, organizational--will be necessary to prevent, identify, and remedy these problems in a population of children? Given current techniques and organizations, we seem to require one children's physician for every 1,000 families with children

> and between $100 and $200 a year for each child. The opportunity for reallocation of tasks between the doctor and his helpers and for new organizational and financial settings is enormous. The tools to measure the effectiveness and efficiency of such changes are weak and need much greater development. We do know that utilization of whatever services are available can be greatly enhanced by making these services responsive to the real needs of the recipients or clients.

The type of basic data necessary to plan a completely rational program for child health have been enumerated, and some of the gaps in existing knowledge have been pointed out. With such gaps in basic knowledge, it is hardly surprising that there is criticism and debate about which methods will best achieve better health and function for young children. But gaps in knowledge and a lack of organizational models of proven usefulness cannot prevent the need for pragmatic decisions about the content and organization of programs to meet the health needs of pre-school children.

Such imperfect knowledge does, however, dictate that practical decisions must be tentative and that diversity of program content and organization is highly desirable, both in adapting to local conditions and in testing and proving new methods. It also dictates that each of the many diverse patterns and programs which develop must build into themselves evaluation and monitoring systems that can lead both to program improvement and to more definite knowledge about the effectiveness of various treatment techniques and organizational plans.

Perhaps the greatest research need is for tools and motivational arrangements that will assure that every practitioner of child health and every organization involved in the promotion of child health can and does fully evaluate his own results in terms which describe the real issues, and does modify his programs in terms of this evaluation.

John Gardner has described the self-renewing individual or institution as one who is constantly aware of his actual problems and operating results and is constantly developing new resources to deal with the ever-changing situation.

Perhaps the Gardner concept of Self Renewal is what we need most, both in providing today's services and in defining tomorrow's research issues in child health.

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RESEARCH ISSUES IN CHILD HEALTH II:
SOME MEDICAL AND ECONOMIC ISSUES

by

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RESEARCH ISSUES IN CHILD HEALTH II:

Some Medical Care and Economic Issues

Dr. North has very ably summarized our present knowledge of health problems in preschool children and has quite properly emphasized the need in service programs to focus on those conditions which are frequent, cause significant dysfunction, and can be effectively treated by methods one can afford. He quite rightly comes to the conclusion that there are only a few conditions which meet these criteria. By implication he suggests that only these should be included in health care programs for the disadvantaged. I find that I must take a somewhat "forced" position to disagree, since I also believe that such a critical approach is proper. But I believe that we should separate those issues which are essentially social policy ones, such as provision of basic medical care -- a socially desirable service in its own right -- from specific research issues that could be tackled within Head Start programs. I will make the first part of my discussion an argument for using Head Start as the basis for developing a program of delivery of comprehensive health care to all children. Once this floor of basic care were ensured, then specific research projects could be designed on top of it. Without it specific research is likely to be irrelevant, for any findings, such as what screening program is most effective, may not be able to be applied. The contrast of the present, fragmented, permissive, and parsimonious Head Start medical program, subject so much to local option, to the bold, imaginative programs to cure the learning and cultural disadvantages of these children, is striking. We simply cannot wait for all the evidence to come in before acting on a basic health program, as I believe quite properly people did not wait on the basic educational program until all the evidence was in.

Medical care consists in large part of social psychological therapy -- the caring-comfort aspects -- and therefore, like religion, politics and many typical American attitudes such as perfectionism, is not entirely amenable to rational analysis. To expect to prove that all of medical care is beneficial before organizing a system to provide it is too much to ask. One of the major outcomes of medical therapy is patient satisfaction and relief of discomfort. This does not deny that death, disease and disability are also important targets of medical care. But we should also aim to provide a medical program to the disadvantaged, and indeed to all children, that meets needs for satisfaction and relief of discomfort even if we have difficulty with today's information in justifying such care on a cost-effectiveness basis.

I am aware of the purposeful diversity in Head Start health programs. Many of them have arranged for a floor of comprehensive care through local means but others do little but screening programs. This diversity is a weakness when many states have yet to implement Title XIX programs and welfare programs vary so enormously from state to state. I think Head Start could, like the Children's Bureau did a generation ago for their Crippled Children's Programs, establish minimum quality and quantity standards throughout the nation and insist that every child receive basic continuing medical care as a socially desirable human right. Local option could well be allowed for a variety of ways of organizing care and would lead to desirable differences -- i.e., solo fee-for-service or group prepaid service, etc. Such variation would also provide a basis for interesting comparative studies.

There is one other general difference I have with the stand taken in Dr. North's paper and that concerns care for rare diseases. Merely because a condition is rare in the population does not make us any less responsible as physicians to discover it and treat it. I would fully go along with the thesis that the conditions ought to cause significant functional disturbance, either now or in the future, and be treatable to some degree to have high priority in today's era of shortages. There are several problems which are not common but which if undiagnosed may lead to decrease in function and if found early can be successfully treated. In so doing we will not significantly lower mortality or morbidity of the whole population because the condition is so uncommon, but for the individual child it may make a significant difference in his performance. While I am a constant supporter of the need for physicians to think of populations, there is also a need not to forget individuals. As examples: Some congenital heart disease, such as patent ductus arteriosus and coarctation of the aorta, are usually asymptomatic until complications of infection and heart failure arise later in life. If surgically corrected in childhood, results are usually onesof complete cure. To the individual child and his family these cures are important, even though the cost of finding each case is very high and on a cost-benefit analysis probably do not justify the expenditure. The research issue here is to devise new ways of screening children for these problems that do not require as expensive an instrument as a physician. Experiments with new screening methods is an important research issue for Head Start. Even in the case of conditions for which there is no cure, such as mental retardation, proper management of the family is probably of value to help them avoid guilt and the devastating effects on siblings and parents and should not be denied to a child and his family because such therapy is not yet proven to be of value.

To date we have put more of our resources into care of the complex, rare diseases than in ensuring that every child receive basic general care. In our desire to redress the balance, I trust that we will not give up programs for the individual, for we in America must maintain the value of health care for the individual even though his health may not contribute to the measurable improvement of health of the population. This, too, is a social policy type of issue that research in health services will not illuminate.

I would start with ensuring that all children receive a certain minimum of care. If this is not available nor fundable in any given community, Head Start should be prepared to underwrite, coordinate, or organize this care together with other sources of funds. To achieve medical care for all children will require, as all know, the restructuring of our child health services so that many services now provided by physicians can be given by others. There are clearly not enough physicians, nor will there be, to provide comprehensive pediatric care of the same type now given in our suburbs to all. Manpower shortages are the major barrier to implementation of a comprehensive care program for all children. Dr. North has rightly called attention to the fact that much of what the physician now does may not be useful. We certainly need to continue to carry out studies on what is useful, in part in order to save scarce manpower, at the same time providing what is thought to be optimal care by today's standards.

The basic elements of such care should include continuous, combined preventive-curative services in one location or at least coordination of these by competent, compassionate physicians and their allied health workers. Once this is provided we can proceed to certain research projects in health services for children.

A Model For Study Of Health Services

It may be useful before proceeding further with such potential research projects to describe a model or map of the health care system in order to help identify those issues that can most meaningfully be studied within the context of Head Start programs.

Figure 1 is essentially an economic flow type of model with patient needs and demands on the left hand side and resources and services offered on the right side and utilization of health services as the meeting ground between these two. One can also make a model of the social, psychological, Model for the Analysis of a Community Health System

(Adapted from an economic model for the "market" of health services)

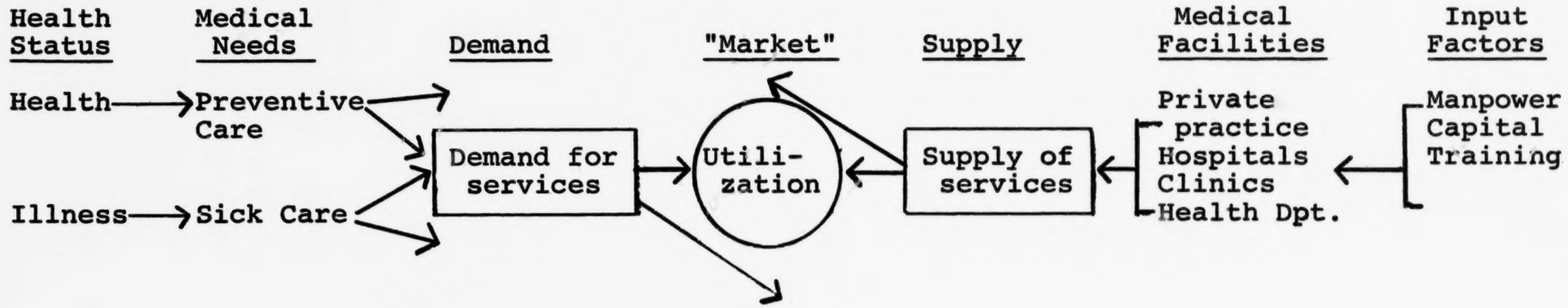
Health Status
Medical Needs
Demand
"Market"
Supply
Medical Facilities
Input Factors
Health
Preventive Care
Illness
Sick Care
Demand for services
Utili- zation
Supply of services
Private practice
Hospitals
Clinics
Health Dpt.
Manpower
Capital
Training

Figure 1

ecological and cultural factors that influence either side of this system. After the introduction of new programs of care one can measure changes in patient needs that result from use of these new services. This would be the outcome variable Dr. North and all of us would like to have.

Now how can we use this model in Head Start programs? The evaluation currently in progress in Head Start is essentially a count of utilization with certain social and demographic data on those who do use the services together with assessment of need as measured by morbidity at time of entry into the system. This is a very good start. This data should be summarized and published periodically for internal review and for secondary analysis by others. The purpose of this seminar is to suggest how we can go further.

First let us take the resources, providers and financing of medical care (the right hand side of the model). In any given community Head Start or any other health care program will face the problem of determining what resources (manpower, facilities and money) are available to provide basic health services for children, how they are currently being used, whether they can be expanded or not, etc. As an example of what can be done I will present some data from our own studies.

We have taken Monroe County -- an upstate New York area of about 700,000 people with 200,000 children -- as our defined population. From a random sample household survey of 1,000 families (1) with children in the County we have determined that 50% of all physician services for children are provided by pediatricians (Sampling procedures, home interviews, coding, and analysis of data have followed standard methods) (2-9).

In addition, a random sample of all pediatricians in the County were selected and their work load analyzed to determine their current activities (10). Table 1 shows the mean time per week spent by these pediatricians compared to other studies of pediatricians and to internists and family physicians. Table 2 shows that 56% of the office time of these pediatricians is spent in health education, preventive services and presymptomatic screening tests. This is one type of way of determining for a given community whether one can add new programs such as Head Start screening or basic comprehensive care for children not now receiving it without altering the organization of care. We believe that we cannot do so in our community, for pediatricians--the major source of child care in the area--are working as many hours as can be expected of them already. But they could perform additional services if some of the work they now do were done by others. We are now engaged in a study of the acceptability and effectiveness of nurses working in the pediatrician's office and doing much of the preventive work and screening tests--the part of the pediatrician's work day that now occupies so much of his time. I believe that this same problem exists in most communities and not all need to duplicate our research program. A fairly simple assessment will determine if there are similar manpower shortages.

Head Start will then usually need to offer incentives for experimentation in altering the pattern of who provides care if they are to get such services performed. One incentive could be to pay the physician a bonus above his usual and customary fee for presymptomatic screening, preventive services, and health education if he would have these activities done by less expensive personnel and if he would agree to take on additional children for continuing basic pediatric care including his availability for acute illness care. He might be encouraged by the economic gain to shift his organization of practice to care for more children, especially adding some of the disadvantaged from Head Start through the mechanism of having others do some of the things that he now does. The bonus is well justified, for the care of the disadvantaged will probably require more time and energy than care of children in the suburbs. I would hope that in some places such experiments could be carefully evaluated and questions asked such as:

PHYSICIAN ACTIVITY

	Rochester Pediatricians	NDTI Pediatricians	Bergman Pediatricians	Altman Internists	Rochester Family Physicians
Office Visits/week	117 ± 53	100	102	55	140
House Calls/week	15 ± 12	2	ND	5	7
Hospital Visits/week	9 ± 5	16	13	24	26
Hours/week	43 ± 18	ND	46	35	48
Telephone Calls/day	23 ± 11	ND	22	ND	10

Table 1

PEDIATRICIANS' TIME EXPENDITURE

Minutes	Well-Child	Sick-Child
0- 3.9	1 (1%)	40 (26%)
4- 6.9	29 (23%)	54 (35%)
7- 9.9	36 (29%)	39 (25%)
10-12.9	33 (27%)	14 (9%)
13-15.9	16 (13%)	4 (3%)
16-18.9	3 (2%)	0 (0%)
19-21.9	4 (3%)	2 (1%)
22-24.9	2 (2%)	0 (0%)
Total Patients	124	153
Median Duration of visit (minutes)	7-9.9	4-6.9
Percent of total M.D. time	56%	44%

Table 2

What in fact happened when such incentives were given? Did the physician see more children? Were the families of Head Start children accepted and did they use his services? Were they satisfied with his services? I would hope that Head Start would be able to build such experiments of manpower utilization into their health care programs. There are now several examples of such manpower expansions in the literature (11-15). They need to be implemented in Head Start medical programs.

If we now look at the other side of the model (Fig. 1) at the health needs and demands, we can get another fix on the problems. The data already being collected from the records of children enrolled in Head Start should provide pretty good data on medical care needs for those who get into the program. What is needed is to compare these needs with those who do not get in and to see how often professionally perceived needs are converted into demands for service for both groups, for it is likely that those with greater needs and less demands may not get into the program. To do this one needs to sample children not in Head Start. This could be done most inexpensively by identifying the children the following years when they enter first grade and determine if children equally eligible for Head Start who did not use Head Start had greater or lesser health needs than those who had been in Head Start and determine their current use of health services. This would give some data on whether the various health programs of Head Start changed patterns of care. Better still would be a prospective study in which a representative sample of children from the same area of the community as those enrolled in Head Start were identified, their needs assessed, and they were then followed prospectively to determine differences that might be attributed to the health care provided Head Start children. One of the key issues in health care today is how to convert medical need into utilization, especially among the disadvantaged. This would be a high priority research issue in Head Start.

Another type of research within Head Start programs is the measurement of health attitudes, knowledge and demographic characteristics of families of children enrolled in Head Start compared to a representative sample of children from the same area and eligibility not so enrolled. It has been alleged that children in Head Start do not represent the most disadvantaged. This point could be and should be studied. Changes in attitudes to preventive services for instance could be measured before and after Head Start participation and in families of children not enrolled. Questionnaires that measure this type of attitude with reasonable reliability have been developed* and could be used without too great expense but would require special project money to be available for such studies to pay for interviewers, data analysis, and a field supervisor of such studies. I would very much like to see such evaluation funds made available through Head Start. Indeed, I believe that in any care program a certain percent of total funds should be set aside for research and evaluation.

Screening programs themselves could be studied within Head Start. There are four general areas of possible evaluation or types of studies of screening programs: (1) Technical--i.e., reliability and validity of different methods; (2) Social and Behavioral--i.e., who uses screening, why, their attitudes toward, and whether screening programs serve as entries to health care system; (3) Economic--i.e., cost in money, time, anxiety of screening programs, etc.: and (4) Outcome or Effectiveness--i.e., does a particular screening test result in diagnosis of a disease that if treated improves the function of those children discovered?

Obviously the last area is the one to which most people want to have answers; but it seems likely that this is the area where answers are least likely to come out of Head Start, for it would take years in most instances to measure such outcomes. Over the short run it would be quite possible to study some of the social, behavioral, and economic aspects of screening in Head Start if not the final outcome. Such problems as bacteriuria, behavior disturbances, developmental problems, etc., would lend themselves to such studies. I believe that it would be a mistake to do nothing because we cannot see our way clear to obtaining the final answer we want on effectiveness.

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* Available from the author.

The need is to set priorities among the various conditions and screening tests and stimulate and initiate some research on screening procedures within this captive population of children, especially if it is combined with a study of those children who do not use Head Start and who could serve as a control population.

Screening programs generally detect chronic disease. This could be a virtue of Head Start programs, for, while general pediatric care can often be found in most communities if incentives are offered, competent screening for chronic disorders and especially evaluation of these is less likely to be available in most communities. Head Start could marry these two components of health care and in the process gather some very useful data on aspects of screening, behavioral and economic aspects of pediatric care.

Prevalence data are another research area that would be useful to study within Head Start. It may be helpful to indicate the actual prevalence data of chronic health problems in children. Dr. North indicates that they are pretty well known. Refreshing our memory may be useful, however, especially since the data are not in all areas as solid as we might wish. Table 3 shows the results of three of the best population surveys among children. They indicate considerable variation in prevalence. One effort of considerable research value in a national Head Start health program would be to develop standardized methods for collection of morbidity data and especially to do so in a way to allow for correlation of such data with social and environmental data. This should be a requirement of any Head Start health care program and has already been incorporated I believe in current reporting forms.

By morbidity data I do not restrict the term to the usual listings of findings to which Dr. North rightly objects--enlarged tonsils, bow legs, enlarged lymph nodes, etc. A very high research priority should be to develop reliable functional morbidity data. In our Rochester Child Health Study, a random sample of children in one county, we have used a simple three-point rating scale of parental perception of illness--serious, moderately serious, and not very serious--to rate all conditions reported by the mother on home interview. We believe this is a useful beginning because it appears that if the parent perceives a problem as serious, whether it is or not in objective medical terms, such as innocent heart murmur, it is likely to be functionally important to the child.

But the current prevalence data do not demonstrate some of the relatively unrecognized serious and potentially treatable conditions such as lead poisoning, a special problem in many ghettos. In surveys in Chicago as well as in Rochester it appears that about five percent of preschool children have pica and coproporphyrinuria and are very likely to have a total body lead burden that could be toxic under stress. I would make mandatory screening for this condition, as well as the traditional vision, hearing, and heart disease, a requisite for a comprehensive care program. Others will undoubtedly add pet screening tests of their own choosing.

Another type of problem that hits to the core of Head Start is learning troubles. Clearly not strictly either a medical or an educational problem, it is one requiring many disciplines and one requiring a great deal more research to understand. The prevalence, however, is astounding. In the Rochester Child Health Survey 25 percent of all school age children were said by the parents to have had serious or moderately serious trouble with schooling. That this is a real finding is indicated by the fact that 22 out of each of these 25 children had actually dropped back at least one grade level. As Dr. North indicates, we don't know

TABLE 3

PREVALENCE OF CHRONIC CONDITIONS IN CHILDHOOD

(Conditions per 1000 - Both Sexes)

Condition	U.S.N.H.S. (1959-61)	North Carolina	Isle of Wight
Hay Fever, asthma & other allergies	74.3(32.8%)	29.0(17.9)	16.4(30.3)
Sinusitis, bronchitis & other resp.	34.2(15.1)		
Paralysis, orthopedic & other impairments	26.3(11.6)	31.0(19.1)	17.8(33.0)
Sensory (Visual, auditory, speech)	19.4(8.6)	48.0(29.6)	3.0(5.5)
Gastrointestinal	10.2(4.5)	----	0.3(0.5)
Cardiovascular	8.3(3.7)	4.0(2.4)	2.4(4.4)
Dermatologic	8.2(3.6)	11.0(6.7)	6.3(11.7)
Genitourinary	4.8(2.1)	----	1.2(2.2)
Hematologic	2.9(1.3)	----	----
Infective & Parasitic	2.5(1.1)	----	----
All other conditions	35.1(15.6)	39.0(24.0)	6.6(12.2)
(Mental Subnormality)	----	(77)	(27)
(Behavioural Disturbances)	----	(52)	(57)
Total	226.1 100%	162 99.7	54 99.8

TABLE 4

Illness as reported by mothers: Children age 0 to 17

Monroe County, New York, 1967

	Rochester City Nonwhite	Rochester City White	Suburbs	Total County
Days lost due to illness*				
(per child per year)				
Restricted activity	6.9	15.8	9.0	11.0
Bed disability	2.4	5.1	4.0	4.2
10 selected symptoms*				
(incidence per 1000, last 12 months)				
Frequent earache	138	87	95	96
Frequent headache	165	105	103	109
Stammering	46	35	17	25
Lisping	41	35	22	27
Hard to understand	115	72	44	59
Difficulty seeing	69	119	75	88
Major tooth troubles	234	142	104	127
Hayfever	55	40	87	69
Other allergies	101	153	180	165
Sinus troubles	41	40	65	55

* Significant below p=0.01

TABLE 5

Place and frequency of medical care: Children age 0 to 17

Monroe County, New York, 1967

	Rochester City Nonwhite	Rochester City White	Suburbs	Total County
Hospitalizations	5.5%	6.3%	5.2%	5.6%
Frequency of doctor visits				
(visits per child per yr.)				
Private doctors	.7	4.5	4.2	4.0
Hospitals, clinics	2.4	1.8	.3	1.0
Total visits	3.1	6.3	4.5	5.0
Phone calls	.2	2.3	1.1	1.4
Total consultations	3.4	8.6	5.6	6.4
Place of last contact, last year				
Private physician	31%	63%	76%	68%
Hospital, clinic	40	15	5	12
School	7	8	13	11
No visit in last year	21	14	6	9
				100

TABLE 6

Immunization Status of Children age 1 to 5

Monroe County, New York, 1967

	Rochester City Nonwhite	Rochester City White	Suburbs	Total
DPT*				
Immunized	87%	94%	85%	88%
Not immunized	13	6	15	12
Polio*				
Immunized	76%	94%	84%	87%
Not immunized	24	6	16	13
Smallpox				
Immunized	74%	83%	81%	81%
Not immunized	26	17	19	19
Measles*				
Immunized	45%	72%	67%	67%
Not immunized	55	28	33	33

* Significant below p=0.01

how permanent such problems are or what is the best method of therapy. But we need to determine the antecedents of this problem in the preschool Head Start population and initiate follow-up programs to correlate early developmental problems with later school problems.

The distribution of illness by socioeconomic group is not random. For most health problems there are higher rates for children living in the ghettos. In our Rochester study this is shown in Table 4 where restricted activity and chronic disorders were both more frequent in the children living in the city than in the more affluent suburbs. As shown by Table 5, medical care is not distributed very rationally in regard to need either. Lest we think this is entirely a Negro problem, our Rochester study also shows that whites living in the ghetto areas have more health problems than the Negro but also use more medical care for acute illness. On the other hand, preventive services are especially poorly distributed among the Negro (Table 6). Our programs should not be organized only for the black, although they are generally in greatest need, but for all who have unmet needs.

Another problem with a high prevalence is anemia, mostly nutritional in type. In contrast to learning problems which parents usually define as serious, anemia is rarely noted by parents. As Dr. North has suggested, this is a problem about which we know very little. What is the level of hemoglobin needed for optimal health? This could be explored in an epidemiological and experimental framework; that is, various supplements could be offered and health consequences studied. Head Start would be a good laboratory for such a study. If basic comprehensive care were to be provided to all children in Head Start such experiments could be carried out on top of or in addition to the basic services without the ethical problem of controlled studies that would exist otherwise.

Comprehensive Care Versus Fragmented Care

There are many logistic and ethical questions in conducting controlled experimental studies such as supplemental diets. I believe such studies would be morally and politically feasible only if they were combined with provision of comprehensive health care as a basic service. There would then be an underpinning of care that would meet families' expectations and wishes. If combined with high standards and requirements, such as combined curative and preventive services in one location, use of physician assistants, cost controls and scheduled screening procedures, there could then be superimposed a well-controlled research program to study the effectiveness of such things as dietary supplements of iron without serious ethical problems or the introduction of new screening programs.

To provide only diagnostic services within Head Start and then refer children on with detected disorders is generally poor care. For the disadvantaged especially, present oriented as they must be to survive, access to medical care at the time of acute illness is likely to be much more positively received than referral for care of an asymptomatic problem scarcely perceived as a problem by the parent. In addition, we fail in the present program to give full weight to the burden that acute illness makes on the child in achieving the benefits of the Head Start Program. More days will be lost from acute illness than all chronic disease together. While medical care can do little for many of these acute conditions, it can effectively treat some--streptococcal infections, diarrhea, and otitis media--and reduce absences and occasionally late sequellae and relieve symtoms and anxiety in others; and, perhaps most important, it can serve as the point of entry for the disadvantaged into the medical care system.

Another aspect of the need for comprehensive care is for maternal care. It has been estimated that one-quarter of all handicapping conditions in childhood arise from perinatal problems. Dr. North has pointed out how little we know about some of these associations, but it is clear that the increase in prematurity in lower social class women and subsequent poor intellectual function of these children are both related to the poor environment. To really improve the health of preschool children we are going to need to provide better prenatal care which should include nutritional supplements and improvement of social environment. This is one more argument to me for making the health component of Head Start part of comprehensive health care for mothers and children, not merely an isolated case finding of chronic disease in children. We should use the child as the stimulus for entree of the family into the medical care stream. The child is much more likely to be an effective agent of change than the mother herself.

Since rising cost is a major problem in medical care today and implementation of a comprehensive medical care program for all children would cost more than the $70 per year per child now spent by Head Start, anyone who suggests this must have some ways of controlling cost. If I had a clear answer I would line up for a Nobel prize. But I have some data which suggest that comprehensive care might not be as expensive as is the currently provided fragmented care, for we must recognize that Head Start children also receive a good deal of other care, albeit poorly coordinated, which adds to the total cost. I do not have any total cost figures, but it must be high. As one evidence of this, in our random sample survey of all children in our County we have found the use of prescribed drugs fantastically high. In this study we asked, for each child interviewed, whether he had received a prescribed medicine in the previous forty-eight hours. Nearly 20 percent had! There is a further interesting social class and religious difference shown in Table 7. With such marked differences it seems unlikely that these medications are all needed. Some savings with comprehensive care provided by the same doctor should accrue by reducing unnecessary drug costs, although I recognize that certain audit procedures may be necessary to ensure this.

TABLE 7

ROCHESTER CHILD HEALTH STUDY
Child Use of Prescribed and Non-Prescribed Medicine
In Previous Forty-Eight Hours

	Prescribed	Non-Prescribed
	Percent	
S.E.A.		
I	14.8	23.8
II	30.1*	30.1
III	17.1	26.9
IV	14.2	25.0
White - Protestant	23.1*	22.0
White - Catholic		35.1
Non-White - Protestant	12.6*	7.2*
Non-White - Catholic		38.8*

* = Statistically significant

Perhaps the largest source of cost is hospital care. Here, too, there is some data that suggests great savings may occur from comprehensive care. In a study in Boston (16) in which comprehensive care was offered to a group of families and a randomly selected control group was allowed to continue using fragmented services in the Emergency Room, there was a significant decline in the number of surgical procedures and hospitalizations in those children who received comprehensive care (Table 8).

For these and other more emotional reasons I believe that it is more costly and less effective to provide medical care, as has been done in Head Start; that is, to provide funds for physician screening exams and payment for follow-up care in another location. I believe the money would be better spent in adding it to existing programs for comprehensive care and using them as a lever in other places to stimulate the development of such types of care. Where facilities and manpower were not sufficient it would be possible, through development of comprehensive maternal and child health care centers, to provide comprehensive services and to conduct the really important experiment on the feasibility, cost, and effectiveness of new ways of delivering total care. Until such experiments with careful cost and effectiveness studies are carried out we really cannot answer the question of what is the best way to deliver medical care to children in our country. Therefore, I can speculate as much as anyone without fear of being proven wrong. I believe that it is likely that screening procedures and payment only for care of handicapping conditions found may turn out to be a less cost-effective and less satisfying way to provide medical care for disadvantaged children than complete comprehensive care, however.

It is estimated that for $200 per child per year total comprehensive care can be provided, including hospitalization. It is probably higher for the disadvantaged. It would be interesting to try the experiment of attempting to control costs by offering this sum to physicians for care on a per capita basis. After all, a pediatrician can care for at least 1,000 children. With

TABLE 8

RATES OF HOSPITALIZATIONS AND OPERATIONS AT SIX-MONTH PERIODS

Time Period (months)	Hospitalization Rate per 100 Children		Operation Rate per 100 Children	
	Experimental	Control	Experimental	Control
6	4.26	2.04	1.6	0.5
12	2.99	3.74	0.8	1.6
18	1.82	3.27	0.8	1.2
24	1.93	3.64	1.0	2.0
30	3.08	3.87	1.3	1.9

$150,000 to $200,000 per year that would then accrue for the care of 1,000 children he would have a large sum to use to organize care most efficiently and an incentive to keep costs down. The total cost, if such incentives were successful, would then be less than currently spent on fragmented services and the physician might even make more. Head Start is already paying nearly half this much. With Title XIX, OEO and other funds we should be able to find the funds for the remainder while at the same time controlling costs and improving quality. Such incentive experiments should be a required experimental part of any comprehensive care program for Head Start Programs.

Summary

I have in this discussion advanced the notion that we should combine our humanitarian principles with our critical research questions and carry out the bold medical care experiment characteristic of Head Start's educational goals. We should ensure that children receive a basic comprehensive medical care program and then combine it with controlled experiments to answer some of the high priority questions about which we have so little data, such as manpower innovations, medical needs, screening tests, attitudes, utilization, prevalence data and costs.

The solution, as in so much of life, is not a rigid adherence to a limited, parsimonious program or a totally uncritical and wasteful approach but a middle ground. The middle is always hard to find and even more difficult to maintain. A comprehensive care program with certain guidelines, requirements of quality, and restrictions on unnecessary procedures is my middle ground with simultaneous stimulation through incentives to carry out specific research projects on top of this.

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RESEARCH ISSUES IN CHILD HEALTH III: SOME SOCIO-ANTHROPOLOGIC AND ORGANIZATIONAL ISSUES

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It has been stated that a health problem, to be of importance to Project Head Start, must have a definite impact on the day-to-day functioning of the child. Perhaps this criteria applies equally to any aspect of the health program of Project Head Start. Is there research data or can we obtain data to answer questions such as, "What does Head Start mean to the family?", "Can a health program in Head Start be so integrated into the family subculture as to initiate desirable change in family health behavior?" This family health behavior, including nutritional habits, sleeping habits, traditional health remedies, child care arrangements, etc., is, of course, infinitely more important to the health of the young child than those rare visits to a doctor or clinic which is most likely far removed from their own milieu. The field of medical anthropology provides a number of documented examples of attempts to superimpose an outside system of health care onto groups.[1-8] The subsequent failure of most of these attempts has been due to a failure to consider such questions as those just raised concerning Head Start. Many current comprehensive health programs in the United States today are experiencing similar difficulties because of problems in integrating the programs into the cultural context of those they wish to serve. Instead of asking, "How can we educate (i.e., change) the patients to accept our program?", we might ask, "How can we change the program so that it is readily acceptable to them?" There is relevant research which is applicable here. There are methods for determining what present indigenous health practices are and how to fit a health program into such health practices so that the program is easily assimilated into their day-to-day functioning.[1,9,10,11]

I would like to address myself to each of four main issues concerning child health as it relates to Project Head Start. The first question is, "What are the functionally important health problems in young children?" The answer to this question is dependent on the way the person asking the question sees health. In spite of living with the World Health Organization's definition of health for twenty years, we physicians are still trained to see health as absence of disease, leading to a dichotomy of health or sickness. This is probably the result of the history of medicine which developed as a descriptive science spearheaded by pathology which is essentially abnormal anatomy. Thus, an organ (or person) is diseased (i.e., not healthy) if one can see the disease process. This approach has serious disadvantages. At best, it sees health as a continuum from normal to abnormal.

It is of considerably more than academic interest to consider an alternate approach to health. We know now that an individual's ability to "fully exploit his environment" is the result of a dynamic equilibrium of thousands of factors (biochemical, psychological, anatomical, environmental, etc.); and the functional level of this individual (which cannot be seen through a microscope) has, as a result, a wide range. This range does not have a normal and abnormal end but an optimal and sub-optimal end.

Such a positive, functional type of theoretical construct of health would change the original question to: Which of the thousands of factors in the child's total internal and external environment are most commonly found at sub-optimal levels and may therefore be interfering with the child's optimal functioning? It is apparent that one cannot expect to take a single physiological or biochemical variable such as hemoglobin and compare it with a single functional variable such as academic performance and expect a significant correlation unless the hemoglobin is far down the sub-optimal end of the range. An attempt was made recently in California to correlate, in a large group of school children, a volume of data from physical examinations and laboratory studies with school performance with predictable lack of significant results.[12] On the other hand, when dealing with single variables such as hemoglobin, one could search for levels which appear to provide optimal functioning hopefully studied through positive tests of functioning such as exercise tolerance, tolerance to anoxia, etc., rather than negative tests of loss of functioning such as disease states. Likewise, in service programs, one could attempt to provide these theoretically predetermined optimal levels of hemoglobin, realizing there could very well be a significant gap between the optimal level of hemoglobin and the level of hemoglobin at which the dynamic equilibrium of these thousands of factors would be so altered as to produce measurable decrease in functioning and, ultimately, disease.

The same shift in approach to health from absence of disease to optimal functioning could be applied to the question of "mental health problems." The question, instead of "Is the individual abnormal mentally?", becomes "Is the child's behavioral function optimal?" A study in California of pre-school children revealed that, according to the mothers, 91% of the children had at least one problem with behavior with an average of 6.3 problems per child of which 4 were mild, 1.7 per child were reported to be of intermediate concern, and 0.6 of a problem per child the mother felt to be of serious concern. These problems included stubbornness, disobedience, temper tantrums, easily hurt feelings, etc.[13] Within the context of the child's immediate environment, then, optimal behavioral function is rare in the pre-school child.

While we are not overwhelmed as yet with data on the emotional and social behavior of pre-school children in poverty areas, such information is beginning to accumulate and certainly should be made available for wide application since it fulfills the criteria for an important issue. As one example, Schaefer, while providing a program of systematic cognitive stimulation to children 18-36 months of age in a culturally deprived area of Washington, D.C., found one group of children resistant to the possible benefits of this program who were suffering from a syndrome which included increased frequency of infections, increased frequency of child abuse, decreased maternal interest in the child, and marked irregularity of meals provided to the child.[14]

The literature in the area of emotional and social behavior of the pre-school child is extensive enough to warrant a review by Ervin-Tripp, who notes that "The environment of the infant may be significant well before the ages heretofore thought important and, if considerable early sensory stimulation is indeed necessary, lowering the age of availability of skilled nursery school care radically is implied.... The point of these early programs is that divergencies between the social classes increase with age, so that the longer the delay in taking action, the more difficult it becomes to reverse the early deficits."[15] Several programs involving enrichment at a pre-Head Start age have been initiated, and some preliminary data are available.[16,17,18] All such data indicate that the cycle of poverty, including how it affects parental health behavior, language development, nutritional preferences, etc., is well established by Head Start age seriously reducing any possible effectiveness of Project Head Start.

A second question is: What techniques will efficiently identify the children who have functionally significant health problems? The technique to be used will depend on the type of problem defined and will therefore be of necessity self-fulfilling prophecy--that is--you discover what you look for. A traditional physical examination will discover traditional diseases--in fact, screening tests, teacher observation, parent history forms are all similar in that in each case you get answers only to those questions you choose to ask. It may well be that with culturally deprived children we are not asking the most important questions. If we ask different questions, we will need to develop new techniques to secure the answers. Perhaps, for example, for every culturally deprived child with functionally significant organic heart disease, there are 100 children suffering from a syndrome of increased abuse, increased infections, decreased maternal attention, and decreased nutrition such as that described by Schaefer.[14] If this is true, then, instead of cardiac auscultation by a highly trained physician in a setting foreign to the child and parent, higher priority be given to successive observations in the child's own home of parental health behavior, nutritional practices, etc., by a trained indigenous para-professional. With regard to the health of culturally deprived children, I wonder if the physician's history and physical examination is "pragmatically, clearly, extremely useful." The physician's traditional approach is totally inadequate to the assessment of nutritional patterns, quantity and quality of maternal attention, child abuse (except for that small part of the iceberg which is visible--profound physical abuse), language development, and almost every major problem which the literature suggests may be important to the culturally deprived pre-school child.

Perhaps, however, the second question should be combined with other questions concerning identification techniques, treatment techniques, and resources into a single, larger question: What is the most effective system of health care for culturally deprived pre-school children? There is little practical value in the mere identification of health problems if intervention is not possible, and neither process should be attempted until the necessary resources are available. It is important to recognize that we are talking about systems of health care. We should, as has been pointed out, put what is known to good use, and there is a considerable body of knowledge concerning various patterns of health care in children and their respective advantages and disadvantages. There are, further, valid tools for measuring the effectiveness and efficiency of such systems.

This point can be illustrated with an example. In a recent Bulletin of Pediatric Practice, published by the American Academy of Pediatrics,[19] one of the regional Head Start consultants pointed out that Head Start health programs frequently were modeled after already established school health programs in that area. This certainly seems logical, since many of the Head Start programs were set up in schools, and school health programs are an attempt to establish a system of health care in a school setting. Is this particular system of health care a good one for Head Start to adopt? Turning to what is known about health care systems, we find at least four highly desirable criteria: They should combine all aspects of health care for the individual, preventive, diagnostic, and curative (i.e., comprehensive); they should be part of the general system of health care for that community; they should be tailored to the particular health needs of the individuals they serve; and they must be capable of acceptance by the individuals such that the health care system becomes a meaningful part of their life patterns. Studies of school health services have demonstrated clearly that this system of health care fails at all these criteria. School health service programs are not comprehensive and, in fact, create a serious iatrogenic problem of follow-up failure; that is, they identify problems without any effective means to insure intervention.[20,21] School health service programs are not in the mainstream of health care in their communities, and in one study just completed it was demonstrated that they relate very little to the rest of the community.[22,23] School health service programs are not tailored to the needs of the individuals served; and, in another recent study, even the physicians who willingly served in a school health service program agreed that their program was not meeting what they themselves considered to be the important health needs of the children in their schools.[24] The fragmented, intermittent nature of this system of health care mitigates against any reasonable expectation that it could have any lasting significance to the health behavior of the child. The most insidious factor of all, however, may be that the very existence of this system of health care breeds contentment on the part of those responsible for the health of the child involved such that effective alternatives are not considered.

This example was chosen not only because of the fear of the high risk of Head Start health programs falling into a pattern of health care which has already been shown to be ineffective, but also because many of the fallacious arguments which have been used in the past to support school health service programs such as "a captive population" and many of the dilemmas which the school health service programs have faced are applicable to Project Head Start. School health service programs have not responded to available knowledge or new knowledge: neither with regard to the health needs of the children they serve nor with regard to the effectiveness of their services. Project Head Start can respond to available knowledge, if it will, before a tradition is established.

In applying present knowledge of health care systems to Project Head Start, the same criteria, including comprehensiveness, relationship to the community health care system, tailoring to the patient's needs, and acceptability, need to be applied. It appears that the present patterns of health services in Project Head Start fall short of these criteria. Can Head Start health services be comprehensive when they serve only one member of a family? While the recommendations from the federal level have included integration of the Head Start health program into already existing medical services, there is great local variation and many Head Start health programs are superimposed on already existent community health services leading to further fragmentation. As has already been indicated, present methods of diagnosis used in Project Head Start, such as physical examinations by physicians, are not designed, in many instances, to identify the health problems which available data suggest are the most important for the Head Start child. And finally, there appears to be little or no evidence of an attempt at the local level to integrate the Head Start health program into the cultural milieu of the Head Start child. Could the application of knowledge of health care systems result in alternatives to the present system of health care in Head Start? Could diagnostic services be carried out to a great extent in the home using nurses and/or trained indigenous workers? Can the treatment services for some health problems be integrated into the family health patterns in the home or into the daily routine of Project Head Start? Could the diagnostic and treatment services for the more traditional health problems be, to every extent possible, provided by the same resources used by the rest of the family with the Project Head Start health coordinator serving to insure adequate standards of health services? Does the Head Start nurse always need to be an R.N. or even a nurse? Should such an individual spend more time in the Head Start unit or in the homes of the Head Start children? Could more "pediatric nurse assistants" be trained and used extensively and effectively in Project Head Start?

Such changes in Project Head Start health services could then be studied using the available tools to determine if they are effective in meeting the criteria. These tools which can be used include behavioral science methodology, the epidemiological approach and statistical analysis. These are the same tools used in the studies cited involving school health service programs and are the same tools used very widely and effectively in many other studies of systems of health care.

In conclusion, Project Head Start is a new program to enhance child development. Ideally, this program should be conducted as an experiment in itself, including an experiment in the application of health care to young children. Such research should include a study of the sub-culture served by Project Head Start and the mechanism of cultural change in this group. It should include the investigation of the possibility of earlier intervention based on present and rapidly accumulating research data. It should include studies of the techniques of intervention in the health behavior of young children and their families--that is, patterns of health care.

By so doing, Project Head Start will use all available research in the health of early childhood and at the same time be a most important experiment in advancing health care to this group.

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RESEARCH ISSUES IN CHILD HEALTH IV:
SOME PHILOSOPHIC AND METHODOLOGIC ISSUES

by

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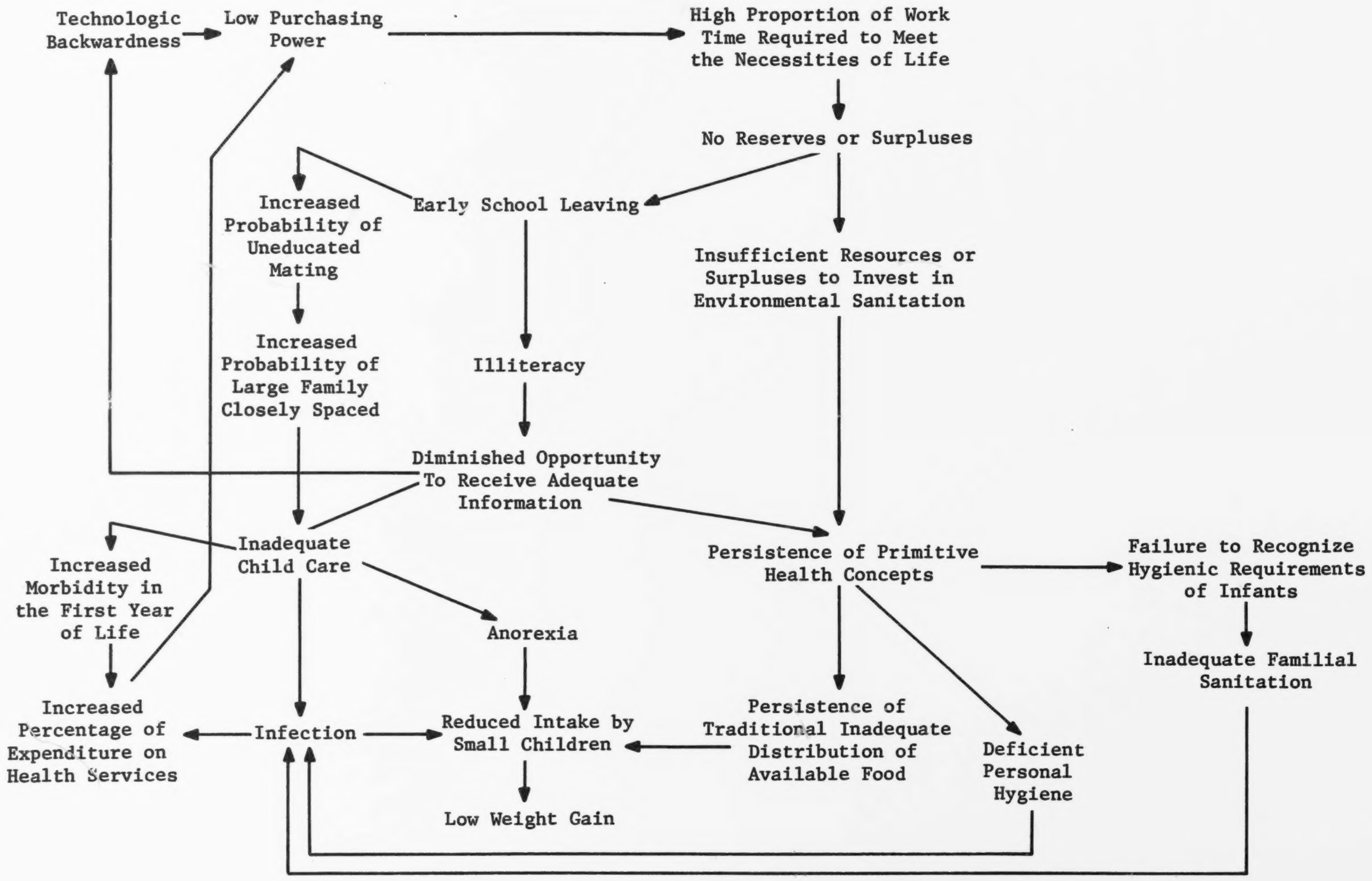
INTERRELATION AMONG BIOSOCIAL FACTORS AND LOW WEIGHT GAIN


Technologic Backwardness
Low Purchasing Power
High Proportion of Work Time Required to Meet the Necessities of Life
No Reserves or Surpluses
Increased Probability of Uneducated Mating
Early School Leaving
Insufficient Resources or Surpluses to Invest in Environmental Sanitation
Increased Probability of Large Family Closely Spaced
Illiteracy
Diminished Opportunity To Receive Adequate Information
Inadequate Child Care
Increased Morbidity in the First Year of Life
Persistence of Primitive Health Concepts
Failure to Recognize Hygienic Requirements of Infants
Anorexia
Inadequate Familial Sanitation
Increased Percentage of Expenditure on Health Services
Infection
Reduced Intake by Small Children
Persistence of Traditional Inadequate Distribution of Available Food
Deficient Personal Hygiene
Low Weight Gain

RESEARCH ISSUES IN CHILD HEALTH IV:

Some Philosophic and Methodologic Issues

The discussion of research issues in child health and nutrition at this symposium has centered around what are really two different types of questions. One type of question is a question of political imperatives: imperatives for social and economic change, imperatives for change in the circumstances of whole segments of population, and imperatives for the expression of dignity and for the expression of self determination on the part of these segments of the population. The second type of question, which has been confused with rather than integrated with the first, concerns research issues and research problems that may be confronted in the area of health, education and development, particularly as it affects certain segments of the population which are called "socially disadvantaged."

This "disadvantaged" population has not merely been culturally deprived. Its members have been exploited. They have been segregated in the community. They have been subjected to the excessive and unbearable patterns of insult for centuries. They have been deprived of housing, of health, of educational and economic opportunities and of a variety of other things. So our discussion takes place in an atmosphere in which a significant segment of the American population is expressing itself in various and heterogeneous ways, in many different voices, but with a message--namely, "We wish to be heard. We wish to be determiners of our own destinies. We wish to define the kinds of problems we have and the ways in which the problems we have are to be approached. We do not want the cold cup of charity. We want the warm hand of justice." This is a very different kind of atmosphere from any in which concerns about welfare, health, or education, or disadvantaged segments of populations, have been considered in the past. This is a new period in American history, a new atmosphere in the arena of social functioning and of social change.

We may well ask the question, "Does research, or does science have anything to do with this area or with this question. Or would it be presumptious on the part of science, upon the part of researchers, to think that they could answer questions of this importance and of this complexity?"

I agree with Peter Medawar when he says that science is the art of the soluble, that is the art of investigating issues for which we have the appropriate technology, and in connection with which we may ask the appropriately defined questions which may be answered by our investigative activities. I have grave doubts and misgivings as to whether we can ask, as a specific scientific question, "What is the best form in which health services may be delivered to a community?" Because to answer that question requires an answer to an auxiliary question which is "The best form for whom, in whose terms, and in connection with what objectives?" Thus, while one form of delivery of clinical services to the community may appear superior from the point of view of specific pilot studies, and of cost benefit analysis, if such a system of delivery is not acceptable to the individuals who are to utilize the services, it will be rejected. It will not be utilized. It will constitute but another arena for increased social tension and increased social conflict. It will not represent a service, but a disservice. And, it will not necessarily be either helpful, healthful, or contributive to an understanding of health and education in children.

On the basis of my own prejudices, for example, I would argue that a university hospital health service provides to the clinic patient a level of medical care and a level of technical concern with his health problems (we will forget for the moment about the humanism and the warmth of the relationship) that is rarely, if ever, met in other settings or forms of the practice of medicine. But this high level of technical quality will not determine whether this is the form or type of medical service that the members of the community want or will accept or will choose. Rather, the choice will be determined by answers to questions such as "Is this the form of organization of one facet of community life that the people who live in this community and who wish to control this community and its functions wish to have at this stage of their own historic development and at this level in their own expression of their aspirations, desires and hopes?"

These are very very important questions. They are as important as questions of war and peace, of the supernatural, of the deity, and of everything else. They are such important questions that we trivial scientists don't have the answers to them. They do not represent, in my view, questions that are going to be solved on the basis of whether or not a given pilot project gives a greater cost benefit ratio, or whether or not a given method has a higher level of technologic skill, or whether or not a given disease entity is, in fact, treated better by one form of service or another. Rather, these questions are going to be decided by social forces, by political pressures, by the struggles of a social kind that are occurring in the community. If we don't want to recognize this, and if we want to play at the game of scientific resolution of these types of problems, it is a game in which I will pick up my money and walk out. That is one of the advantages of games; you can quit.

This change in the social atmosphere has been increasingly recognized, and we who are concerned with research must recognize it too. Moynihan, in a penetrating and detailed analysis of the history of welfare programs and welfare concepts, which appeared in "Public Interest" analyzes one aspect of this shift. Welfare is no longer something which is given to a small number of people who are suddenly left without income as a result of a specific accident or set of inadvertent circumstances, but has changed to a form of life--a condition of existence--for a large segment of the population on a relatively permanent basis. This shift from the crisis model of welfare, as exemplified by Aid for Dependent Children payments to the widow of a miner trapped in a mine catastrophe, to a chronic state of affairs in which 30% of children in an entire community receive Aid for Dependent Children over a considerable portion of their lives and an even greater proportion receives aid at some point in the course of their lives, because of a fundamental dislocation in the distribution of goods (or of "virtues," to use an old medical term) within the society, forces us not merely to increase the amount of aid provided, but to make a fundamental change in our concept of the welfare process.

When welfare is a way of life rather than a temporary crisis, welfare programs must involve recipients--their attitudes, aspirations and desires--at the strategic level of planning. Welfare services will and can only be effective within the framework of social integration in the process of welfare of the individuals whose social dislocations--not as a result of their own capacities but as a result of the social structure--place them in a position of being recipients of welfare funds. This concept of social involvement affects education, welfare, and health services in all of their aspects. It represents the first steps by which the poor seek to control their own lives and opportunities, and it is the procedure through which the poor are seeking to be full citizens with full control of their own lives and existences.

We must consider the research issues against this background rather than confuse the research issues with issues of political and social imperative. Among the research issues--those that can be solved by application of the scientific method--there are four groups which seem to me particularly provocative. The first asks how can we meaningfully assess the current health status of pre-school children. The second asks what are the important antecedent events in the history of a pre-school child which may not affect his currently measurable status, but may be important in determining his future function. The third asks what are the interrelations of nutritional and other insults to the central nervous system, and the mental processes of learning. The fourth asks whether certain events which have no effect in some circumstances may have important and lasting effects on children in other circumstances. These questions all interrelate one to the other, and must often be asked simultaneously.

Let me give you several examples from our own research. In one group of studies we posed the question of whether infants who were subjected to asphyxic episodes at birth, reflected by low Apgar ratings, represent children who are at any special risk of distorted development at a later point in time. We studied not those infants who continued to exhibit disturbed function throughout the newborn period, but only those who had low Apgar ratings at birth and who, within two days of birth, were regarded as entirely normal by the pediatricians caring for them and were receiving no special care. Their "current status" at age 3 days, using standard medical pediatric appraisals, was regarded as being excellent.

When you sound a tone near one or the other ear of a normal 3 day infant, he will turn his eyes in the direction of that tone in a beautiful, confined, conjoined movement. He is not looking at the tone, because he does it just as well when he is asleep or when his eyes are tightly closed. It is a beautiful, reproducible, ocular-motor reflex to the lateralized presentation of auditory stimuli. Now, infants who have Apgar scores of 8 or more at the time of delivery exhibited this beautiful, coordinated, oriented eye movement whenever the stimulus was presented. What about the children who had low Apgar scores, but who at age 3 days had "recovered" and were in excellent clinical condition? Examined by this sensitive technique, these children were markedly defective in their conjoined ocular motor responsiveness to tone. They are children who are not orienting themselves reflexly to a localized sound in their environment.

If you now translate this lack of reflex behavior into their responsiveness in a social situation at this age, it is clear that such infants won't turn their eyes and fixate upon the person feeding them, talking to them or approaching them. In other words, these children, by standard measures of "current status" were perfectly normal. Yet, using an appropriately sensitive test they were found to have defective function, and this disturbance in function was intimately related to a prior condition of risk to which these children had been exposed. Looking at current functions alone, one learns only where the child is at a given moment in time. One has little notion of where he was before that or how he got to be where he is.

Anemia in a preschool child may be important not because a low hemoglobin level affects his current health, but because it is a marker of exposure to antecedent conditions of risk. If we take this view of low hemoglobin levels, small stature or a number of other signs that reflect immaturity or mal-development, then our research problem is a quite different one. To what extent are the children who exhibit these findings at age three, children who were at particular risk in their developmental course prior to age 3? Were they, for example, exposed to severe nutritional deprivation which, though not a current problem, has left an indelible mark on their potential for future function? In studies which my colleagues and I have conducted in Mexico and Guatamala, children of school age who have been subjected to continuous chronic circumstances of sub-nutrition (though only rarely to acute episodes of serious malnutrition) are distinguished from their colleagues not by the fact that they have different globulin levels, or different serum albumin levels or different hemoglobin levels, but because they are shorter in stature and lighter in weight. And when we study them we find that they exhibit a profound difference in their capacity to learn and in their abilities to process environmental information. Their small size is not a current handicap, but it indicates an antecedent malnutrition that had important consequences which are a current handicap. Such questions about what antecedent conditions are important for the future and how one can use current findings as a potential indicator of such antecedents represent a set of problems which I think is critical with respect to developing and planning health programs for children who are exposed to particular conditions of risk.

Let me cite another condition of risk that has been treated in various ways over the years. Children of low birth weight are known to have, on the average, lower intelligence and achievement test scores than children of normal birth weight. In my city, in yours, or anywhere else, when low birth weight and perinatal mortality, maternal mortality, and similar statistics indicating risk to the child are examined, the non-white segments of the population are excessively represented to a very significant degree. Thus, it can be argued that low birth weight in itself need not result in any faulty developmental outcomes, but that the high risk of low birth weight is a statistical distortion caused by the excessive representation of lower social class children in the low birth weight group.

Checking further, if white middle class children weighing between 4 and 5 pounds are compared with children of normal birth weight, their intellectual status at a later point in time is not significantly different. It has then been argued, with a great sign of relief, that low birth weight is an overestimated problem, or an overestimated condition of risk.

Such a conclusion is, of course, truly premature. While such studies further define the research question they do not answer it. What are the logical alternatives? It may well be that low birth weight does produce dysfunction and disturbance but, if the child is able to live in a middle class environment he develops compensatory mechanisms or substitutive skills that contribute to normal functioning at a later point. However, if he is low birth weight and lives in a further disadvantaged environment, does the low birth weight represent a cumulative insult to his opportunities for development? Over the last several years some colleagues and I have been studying children in an ethnically homogeneous community of 200,000 in Aberdeen, Scotland. Studying 15,000 children, who represent 99.85% of all children surviving in 5 birth years in this community, we were able to relate reading tests, other educational tests, I.Q. tests, and other data at the time of school entry to completely recorded birth data.

Some of the relationships we found are pertinent to the point at issue. In social classes I through III-A, all of the non-manual occupations, the I.Q. at age 5 for low birth weight babies is the same as that for full weight babies, provided there was no obvious pathology in connection with the low birth weight. In the skilled manual working group (social class III-B and III-C) the low birth weight babies show a slight disadvantage, one that is not statistically significant even with these large numbers. In social class IV, semi-skilled workers, the disadvantage of low birth weight infants becomes statistically significant, and in social class V (unskilled and casual workers) the low birth weight infants are at a profound disadvantage. Previous studies have analyzed the data using designs which ignore the fact that the interactive effects among variables may be far more important than the specific effects of the variables themselves. But using the technique of analysis of variance one sees clearly the interaction between social position and the antecedent condition of risk, low birth weight. Low birth weight becomes a risk condition only for otherwise disadvantaged children. For one part of the population low birth weight seems to be a condition that can push an individual over the brink, whereas for many other parts of the population, not under additional conditions of stress, it appears to be a trivial event.

So we must be cautious in the degree to which we transport our experiences with preeminently middle class patients in which there are no such significant interactions except in a positive sense, to individuals, societies, and subcultures in which there are, indeed, such interactions resulting in potentially disasterous effects.

At this moment, as a physician, I don't know whether I should be concerned in a different way about a low hemoglobin level in a child who is in social class V and a child who is in social class I. I would like to know whether his hemoglobin level is related to other features of his responsiveness. I would like to know the degree to which it places him at an additional handicap above and beyond the handicap with which he is confronted by his defective or deprived opportunities. I cannot answer my question as to whether I should be concerned until I develop a research design that, in fact, takes interaction into consideration, and that, in fact, pursues this issue in a systematic way. The same is true for many of the conditions and antecedent events which have been discussed in other papers during this seminar.

One of the problems frequently alluded to in this seminar is the problem of using what could be called a "medical examination" to identify children who are at risk of having difficulty in learning. My own original position was that the medical examination is not pertinent to learning. The medical examination and diagnosis are a definition and a path to effective action for medical problems. It has not been designed with effective educational action as its goal. Is there any reason to think that such a tool, developed for medical action, should be pertinent to learning? Well, despite my early opinion--there are a number of areas that can be included in the medical examination that are pertinent both to medical care and to learning. Among these are features of attitude, features of style on the part of the child in response to demand, and other aspects of "temperament" that my colleagues and I have written about at length. But there is also a much more distinctively neurologic strategy which is pertinent to both learning and the standard medical situation.

The traditional medical-neurologic examination was designed to describe the location of a lesion in the nervous system, not its nature or consequences. In seeking to describe processes rather than localize lesions quite a different strategy was necessary. One such strategy derives from a consideration of the evolution of adaptive capacity. The strategy of evolution in increasing the capacity of the nervous system has been, as Sherrington puts it, not to increase the number of sense systems, but to increase the intimacy with which the sense systems may interrelate. Many of the learning tasks with which we are concerned, especially reading, require an elaborate organization of interrelationships between the various sensory systems.

So for many years we have studied the degree to which antecedent conditions of risk disturb the normal developmental course of relationships among the sense systems, and how these disturbances affect functional activities and adaptations on the part of the child. There are many ways in which to test a child's ability to relate information from one sensory system to another. For example, he could be asked to identify dot-dash patterns on a piece of paper with sounds presented in analagous patterns. Or he can be asked to feel a shaped object out of his sight and then identify the shape of the object from among those presented to him on a piece of paper. We find that many children with learning problems do, indeed, have massive problems in trying to integrate information between sense systems. We can relate these disturbances to antecedent conditions of risk. And through these disturbances we can relate antecedent risks to current or future malfunctioning.

You must recognize that this is a slow process. First, appropriate test methods must be devised. The normal developmental course of the skills represented by these tests must be studied, the pertinence of the functions measured by the tests to learning function and to antecedent conditions must be evaluated. But when such studies have been completed, tests of intersensory integration may prove to be among the most relevant tests for both neurology and education.

In all nutritional activities, both scientific and political, the fundamental doctrine must be primum non nocere, first do no harm. It is an immoral scientific or political experiment to intervene by modifying a food supply without guaranteeing that there will be a perpetuation of this modification for the future. I have seen too many communities in which profound dislocations in the ecology of nutrition and feeding have occurred because someone who has provided supplementation for 2 years in order to study its affects. The normal ecology of food gathering, food utilization and economics have occurred and the people have been left with new and more serious difficulties when the supplementation ended.

Making snacks and lunches available in the school or a Head Start program is fine; it saves money for the family, provides some food for the child, and can be integrated into the rest of the learning situation. But to regard a Head Start or school lunch program as though it were going to modify the nutritional circumstance of the family is to be self deluded. The nutritional circumstances of the family can be changed only by a fundamental social modification of food practices, coupled with food availability, coupled with understanding on the part of the community.

Malnutrition in all societies is but one aspect of social and economic deprivation (In only one society is under-nutrition separated from social deprivation. The Jains of India engage in very restricted dietary program, even though they are of a high social and economic caste, and so represent an interesting group for potential study). Patterns of nutrition are not separable from the patterns of mental stimulation or from the patterns of social, economic, housing and educational conditions. The complexity of some of these interrelationships is partially illustrated in Figure I.

Once the principle of "no harm" has been fulfilled there are at least 3 ways in which more adequate nutrition can improve learning. The first is through its direct effect on the developing central nervous system. Many studies have demonstrated that when the young mammalian organism is deprived of nutrients during the prenatal or immediate postnatal and weening periods, during the periods of most rapid growth and myelination of the nervous system, the growth and differentiation of the nervous system is disturbed, in a way that is not corrected by feeding at later ages. Winnick has shown that at the cellular level there is a decrease not only in cell size, which may be subject to later correction, but also in cell number, which appears to be a permanent deficit. One of the most important research problems is to define, for man, the circumstances under which such early malnutrition takes place, and for how long and to what extent such changes may be reversible.

For example, myelin continues to develop throughout childhood and adolescence. If the important effect of malnutrition is to interfere with myelination, it is possible that the changes may be reversible over a prolonged period of time. However, the deposition of myelin may be merely an event which takes place simultaneously with cellular differentiation, dendritic formation and arborization, and it is interference with these processes, not with the concurrent myelination, which is important. In this instance, the ability to achieve later myelination will have no effect on later function. Certainly our present knowledge does not allow us to say to what extent nutritional insults to the nervous system that may have occurred at an early age will be corrected by feeding at a later date, and the problem is worthy of scientific investigation.

A second way in which nutrition may affect the child's learning is by making him more or less susceptible to infection. Children who are relatively malnourished become sick more frequently and when they become sick they may become more severely ill, with greater possibilities of central nervous system damage, than children in better nutritional status.

Thirdly, malnutrition may affect learning by interfering with the energy levels, the level of attention, or, at the simplest level, by interfering with the number of days of school attended. Again, the consequences may be different for different groups of children.

In a study of the epidemiology of reading ability in relation to the amount of instruction, Guyernberg and I found that for most children there is a systematic position relationship between the amount of reading instruction received and reading competence achieved. But, for bright and superior children, those who learn easily, there is no such relationship. The relationship is exaggerated for children who have any difficulty in learning. Thus, interference with school attendance, with attentiveness, or with energy level might be expected to have its greatest effects in the same group of children that is likely to be malnourished.

I would like to point out, too, that it is criminal to consider malnutrition as an individual's problem, not just socially criminal, but criminal in the area of ideas. Because malnutrition does not start with the child. As early as 1932 John Boyder, Isabella Leach and other workers, examined the interaction between social position and conditions of health, such as stature. They learned that lower social class groupings contained individuals in whom there was a constellation of disturbances that were not limited to a single generation, but were inter-generational in character. Some attributed these effects to the mother's diet during pregnancy, others wondered whether the mother's growth during her own childhood represented the most crucial factor affecting the conditions she would pass on to her children. The data that has come forth suggests very strongly that the mother's opportunity to grow during her own childhood is perhaps the single strongest determining factor for her obstetrical and reproductive performance, and that this influence exerts a greater affect than her contemporary social class position at the time of pregnancy.

It seems likely that malnutrition and other conditions of health represent such inter-generational problems. The degree to which a child is at risk must be considered not only in terms of the contemporary circumstances in which he is living and the details of his own history, but within the context of his mother's physical status and her developmental history. Pediatrics, as the developmental branch of medicine, must be concerned not merely with change in a given generation, but with the inter-generational influences on growth and health.

As you look at the stature of the different speakers who addressed you today, I would remind you that you could define the social class antecedents and perhaps the number of generations which our ancestors have spent in this country, rather than a ghetto in another country, on the basis of the differences in our stature. I would remind you, also, of Boaz's study of the growth differences between American born generations of Jewish immigrants' children and the stature of their parents. The American born boys are now playing basketball; their fathers couldn't play volleyball! There have been , indeed, significant interactive affects which are intergenerational and which are, in fact, transmitted in social descent.

To consider nutrition outside of this context, to consider it merely as a transient episode, is to think that malnutrition only occurs in India when there is a famine. Malnutrition is not a crisis phenomenon; it is a condition of life. It is stable and persistent and pervasive in the life course of individuals. I am, therefore, concerned that studies in Syracuse show that 10% of white children but 40% of black children come to school without breakfast. I am concerned that lunch consisted of a meat or cheese or egg sandwich plus fruit and dessert for one group of children but a chocolate bar and a soft drink for a considerable portion of the other group. I am concerned that nutrition, as a way of life, has other aspects as well. Feeding is not independent of the structure of an individual's program of existence, meals represent temporal modal points in the course of a day. Gleaning and casual eating produce attitudes with respect to the organization of one's behavior and function which are antithetical to normal functioning in the usual school situations. What is the importance of time? What is the importance of sequence? What is the importance of order? These, as much as whether or not there is a given hemoglobin level or serum albumin level are aspects of a developmental relationship between nutritional circumstances and growth that can be, must be studied.

It is within this framework, then, that it becomes productive to consider a number of problems that, indeed, can be explored. But in considering them, we must beware that we do not spread illusions that a hot lunch is an educational panacea or, for that matter, that desegregation is an educational panacea or that local control is a social and governmental panacea.

These may be human and political imperatives, but whether or not they are technically contributive to a given end function is an open and studiable question. So, neither the leaders of people nor those of us who are their servants should take the position that we can solve these intergenerational problems at one fell swoop, that we can, with any trick or gimmick, solve the health problems of our people. What we must develop is a concern with all facets of health as it goes across the generations, so that if, indeed, this present one cannot be brought to optimal levels of function, subsequent ones may be.

With all these problems, and the problems of choice and decision that attach to them, with the opportunity to select from positive alternatives of all kinds for the development of programs, I think that we as scholars will often be upset by the waste with which such programs, such opportunities for research and advancement, will be modified in the political, social and human arena of the real life community.

I have been seeking for solace in this atmosphere. I found it in an old hero--Woodrow Wilson, who was both a scholar and a practical politician. I can think of no better way of ending my remarks than by reading you something Wilson wrote:

"The men who act stand nearer to the mass of men than do the men who write, and it is at their hands that new thought gets its translation into the crude language of deeds.

The very crudity of that language of deeds exasperates the sense of authors. The men who write love proportion. The men who act must strike out practical lines of action and often neglect proportion. The great stream of freedom which 'broadens down from precedent to precedent,' as Mr. Holmes put it, is not a clear mountain torrent, such as the fastidious men of chastened thought like to drink from. It is polluted with a few of the coarse elements of the gross world on its banks. It is happy with the drainage of a very material universe."

Seminar #5

INTERVENTION IN FAMILY LIFE

Robert Hess
Ira Gordon
Daniel Scheinfeld

PARENTAL BEHAVIOR AND CHILDREN'S SCHOOL ACHIEVEMENT IMPLICATIONS FOR HEAD START

Robert D. Hess
Stanford University

Head Start Research Seminar #5
Washington, D.C.
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PREFACE[1]

The intention to involve parents in the operation of the program and to improve the quality of family interaction and of family participation in the institutions of the community were prominent among the original objectives of Project Head Start. These objectives are difficult to achieve and it is not surprising that the programmatic and instructional aspects of the Head Start classrooms reflect more progress than do the features of the program designed to have a positive impact on parents. Yet involvement of parents in the schools, whether through community based "parent power" organizations or individual contacts between parent and school, represents one of the most significant developments in the urban educational arena; and the extent to which we can understand and work with the emerging community forces may, in some locations at least, profoundly affect the future course of early education in Head Start and other settings.

This seminar was organized in order to offer an opportunity to discuss some of the issues and processes which relate family to school achievement and both to the structure of the society, and to consider the promises and problems of intervention in family life by a federal program.

This initial paper will attempt to cover these points:

1. To summarize the available empirical research on effects of parental behavior and values upon cognitive development and school achievement in young children;

2. To review evidence for social class and ethnic differences in the dimensions of parental behavior shown by research to be most relevant for these aspects of child development;

3. To sketch some of the conceptions of linkage between social and cultural features of society and educational achievement and cognitive activity in children;

4. To raise some questions about the implications of these linkages for intervention by Head Start and other federal programs in the lives of lower class families.

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[1] This paper was presented at the fifth Head Start Research Seminar, held in Washington, D.C. on January 13, 1969.

I would like to express my appreciation and gratitude to Judith Evans for her painstaking, thoughtful help in preparing this material, and to Audra Adelberger for her cheerful editorial assistance.

The two succeeding papers will respond to these in part directly and in part by offering alternative points of view on some of the issues and questions raised.

PART I

Family Characteristics and School Achievement in Young Children

In the past, the parts played by family and school in the young child's life have been more complementary than competitive. Although there is a great deal of overlap and sharing, families have had primary responsibility for those aspects of child-rearing that include moral development, social responsibility and skills, emotional growth and stability, and other behavior loosely referred to as "personality." The school has been assigned responsibility for cognitive and academic training and development.

This traditional division of labor is now being re-examined, chiefly as a result of concern over the poor school performance of children from urban ghettos. Do children from low-income minority homes sustain educational disadvantage because of the inadequacy of the school, or do they bring cognitive and educational deficits to the school from their homes? To what extent is low academic performance rooted in community and family experiences that affect educability? At another level of social significancy, what is the long-term responsibility of society for conditions that make for the alleged educational damage to the preschool child and for the customary gap between the ghetto family and the ghetto school in understanding, communication and culture?

The concept of the family as a socializer of cognitive behavior seems likely to become one of the most thoroughly explored areas of early education in the next few years. It is a concept of particular significance to programs of intervention designed to work with families as part of a coordinated intervention program.

The purpose of this seminar is, first, to bring together and comment on the work of scholars who are trying in various ways to enlarge our understanding of the role of the family in the educational process. Second, it is to consider how programs of intervention may cooperate with the family in the most productive ways possible.

Parental Variables

It may be useful to begin with a summary of some of the work already done in this field. What are the attitudes, values, and exchanges of behavior between family members and young children that promote cognitive growth, scholastic achievement, and educability--that is, the readiness to learn in an educational setting?

The answer to this question is obscured by a number of serious methodological and statistical problems. For example, investigators of maternal behavior have a creative streak and a flair for originality. Rarely will they use a concept, a variable, a technique for gathering data, or a research population exactly as did another investigator. Nuances, variations and revisions abound; in effect, each of these studies is a single, independent study. Since unreplicated results are only slightly better than no results at all, the research landscape, in my view, tends toward clutter rather than clarity. Describing it coherently is a task that seems to call more for literary artistry than for scholarship.

A listing of studies showing some correlation between maternal, paternal or family characteristics which might be thought to be causal in some reasonable way appears in Figure I[2]. Some of the parental attitudes and behaviors clearly overlap, suggesting that they might be grouped into a smaller number of categories without undue distortion. Others might group them in quite different ways, but here is the way they look to me:

A. Intellectual Relationship

1. Demand for high achievement
   Consistent through several studies is a positive relationship between high need achievement and academic performance of their children and the tendency of parents: a) to value intellectual achievement in their children (Moss & Kagan, 1958; Crandall et al., 1960; Dave, 1963; Wolf, 1964; Honzik, 1967), b) to set high standards for their children (Rosen & D'Andrade, 1959; Rau et al., 1964), c) to reward high achievement as well as punish poor achievement (Kagan & Freeman, 1963; Bing, 1963; Crandall et al., 1964; Katkovsky et al., 1964).
2. Maximization of verbal interaction
   A child's opportunities to participate in conversation and activities with adults at home (Milner, 1951; Bing, 1963; Slaughter, 1968), and his parents' tendency to provide situations that will enlarge the child's vocabulary (Dave, 1963; Wolf, 1964) are related to the child's verbal and academic achievement.

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[2] Figure I is a summary tabulation of studies on parent-child (especially mother-child) interaction. It includes investigator's names and dates of studies, age group studied, set of subjects, race or ethnic affiliates of subjects, a list of child variables investigated, and a list of variables found to correlate significantly with the child variables.

3. Engagement with and attentiveness to the child

In the studies cited, parental interest in and involvement with the child correlated with academic achievement (Rosen & D'Andrade, 1959; Witkin, et al., 1962). Indications of a parent's involvement with his child include awareness of how the child is doing in school (Mannino, 1962; Dave, 1963; Wolf, 1964), interest in the child's activities (Bayley & Schaefer, 1964; Rosen & D'Andrade, 1959), and providing assistance on school and non-school tasks (Bing, 1963; Dave, 1963; Wolf, 1964).

4. Maternal teaching behavior

A series of studies have looked specifically at the interaction that occurs when a mother teaches her child a task. Some of the maternal strategies that facilitate the child's learning of a task include giving the child specific directions and feedback, working to elicit the child's cooperation, accompanying requests for physical response with verbal explanations, and using elaborated rather than restricted language styles (Busse, 1967; Olim, Hess & Shipman, 1967; Hess & Shipman, 1965-1969).

5. Diffuse intellectual stimulation

Children who score high on achievement tests and show high need achievement come from homes where parents are interested in stimulating the child intellectually. This stimulation is provided when books and materials to explore and manipulate are available (Milner, 1951; Rosen & D'Andrade, 1959; Bing, 1963), when curiosity is aroused (Witkin, et al., 1962), when learning situations are created in the home (Dave, 1963; Wolf, 1964), and when the child is read to by personally important adults (Milner, 1951).

B. Affective Relationship

1. Warm affective relationship with child

Children who are high achievers tend to have parents who treat them warmly (Baldwin, Kalhorn, & Breese, 1945; Witkin, et al., 1962), and provide them with emotional support (Baldwin et al., 1945), and to come from homes where there are more affective acts (Rosen & D'Andrade, 1959), and more opportunities for positive interaction with adults (Milner, 1951). A close relationship with a parent affects the child in different ways depending on the sex of the parent and the age and sex of the child (Bayley & Schaefer, 1964; Honzik, 1967; Busse, 1967).

2. Feelings of high regard for child and self

A parent's acceptance of himself (Busse, 1967; Slaughter, 1968; Hess & Shipman, 1965-1969) and his high regard for his child's competence (Winterbottom, 1958; Rosen & D'Andrade, 1959; Crandall et al., 1964) are related positively to the child's performance. A child's perception of whether his parents accept him is a better predictor of the child's performance than his parents' statements about their acceptance of him (Barwick & Arbuckle, 1962).

C. Interaction Patterns

1. Pressure for independence and self-reliance

The relation between achievement in children and the degree of independence that parents encourage appears to depend on the age of the child and the task he is performing. Studies have been done at two age levels, early childhood (ages 1-5) and late childhood (ages 9-13), with different results. In general, studies with the younger age group indicate that high achievers are less dependent than low achievers on adults (Crandall, et al., 1960). They have mothers who grant their children autonomy (Bayley & Schaefer, 1964) and make positive demands for self-sufficiency and independence (Busse, 1967). On the other hand, studies with older children indicate that high achievers have mothers who were restrictive with the child when he was young and encourage more independence when the child is about ten (Winterbottom, 1958; Rosen & D'Andrade, 1959; Chance, 1961; Witkin, et al., 1962; Shaw, 1964; Busse, 1967).

2. Clarity and severity of disciplinary rules
   High achievers tend to come from homes where specific limits are set for the child, limits the child is aware of and expected to comply with (Drews & Teahan, 1957). Mothers of these high achievers have been described as demanding, controlling and restrictive (Milner, 1951; Kent & Davis, 1957; Drews & Teahan, 1957; Winterbottom, 1958; Bing, 1963).
3. Use of conceptual rather than arbitrary regulatory strategies
   Studies that concern the type rather than severity of regulation indicate that mothers who accompany regulation with explanations (Rau, et al., 1964) and justification of discipline (Kagan & Freeman, 1963), and who control their children by means of cognitive-rational or personal-subjective rather than imperative-normative techniques (Hess & Shipman, 1965-1969) have children who are high achievers.

These parental and family characteristics have various implications for programs of intervention. Some suggest specific things that one can teach the mother to do with her child or to teach her child. Some reveal attitudes and general orientations that structure the relationship and influence the interaction between parents and children. They seem to have in common a base of parental concern. This type of concern, however, may not be sufficient if one is dealing with a disadvantaged population in which there is a low level of formal schooling, an inadequate store of information, little school-relevant experience, discrimination, fatigue, poverty and other factors that may make if difficult for a mother to do an adequate task of preparing her child for school, even when she holds a deep and intense interest in his future and high aspirations for his achievements.

I would like to illustrate and amplify this summary of research by presenting some data from our recent study of maternal cognitive environments and maternal teaching styles of Negro mothers in Chicago[3] and from a follow-up study of the children's performance during their first two years of school[4]. Some of the correlations between maternal behavior when the children were four years of age and the children's school performance two to four years later may help summarize our results.

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[3] This research was supported by Research Grant #R34 from the Children's Bureau, Social Security Administration, Department of Health, Education and Welfare, by the Ford Foundation Fund for the Advancement of Learning, and grants-in-aid from the Social Science Research Committee of the Division of Social Sciences, University of Chicago, by a grant from the Office of Economic Opportunity, Division of Research, Project Head Start, and from the U.S. Office of Education. My colleagues on this project are Dr. Virginia Shipman, Dr. Roberta Bear and Dr. Jere Brophy.

We used four groups of Negro mothers and their children, drawn from families with four different socioeconomic backgrounds: a) professional, executive, middle class occupational backgrounds; b) skilled work backgrounds; c) unskilled and semi-skilled backgrounds; and d) ADC families without fathers in the home. We interviewed the mothers at home and at the University, obtained responses on standard tests from both mother and child, and asked each mother to teach several tasks to her child. The variables listed in Table I are drawn from these observational, testing and interview sessions, and the correlations given in the table apply to the total group of roughly 160 children and mothers, including those from the middle class. Data for the three working class groups alone follows a similar profile, although the magnitude of correlations tends to be lower (possibly because of restriction of range).

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[4] Hess, Robert D., Virginia Shipman, Jere Edward Brophy, and Roberta Meyer Bear. The Cognitive Environments of Urban Preschool Children. University of Chicago: School of Education. December 1968. Address inquiries to: Dr. R. D. Hess, School of Education, Stanford University, Stanford, California, 94305; or to: E.R.I.C. Clearninghouse on Early Childhood Education, 805 West Pennsylvania Avenue, Urbana, Illinois, 61801.

Hess, Robert D., Virginia Shipman, Jere Edward Brophy, and Roberta Meyer Bear (in collaboration with Audra B. Adelberger). The Cognitive Environments of Urban Preschool Children: Follow-up Phase. To be published in 1969. Address inquiries to: Dr. R. D. Hess at above address.

TABLE 1

PRESCHOOL MATERNAL AND DEMOGRAPHIC MEASURES RELATED TO THE CHILD'S SCHOOL PERFORMANCE
(Total Group)

Maternal Measures	Standardized Tests		Teacher's Evaluations (grades)		
	Lee-Clark Reading Readiness Test:Total	Lee-Clark Reading Achievement Test:Primer	Two-year totals		
			Reading	Arithmetic	Conduct
Home and Community Environment					
Rooms per Person	.24	.32	.17	.24	.31
Availability and Use of Home Resources	.35	.50	.33	.42	.44
Attitudes toward Non-family World					
Out-of-Home Activities	.34	.38	.32	.32	.23
"Powerlessness"	-.27	-.32	-.22	-.31	-.21
Personal Optimism	.28	.24	16	.23	.18
Control Strategies					
First Day: % Imperative	-.22	-.28	-.22	-.25	-.34
Mastery: % Status-Normative	-.20	-.37	-.27	-.29	-.30
Mastery: % Personal-Subjective	.22	.38	.28	.28	.28
Teaching Behaviors					
Etch-a-Sketch					
Number of Models Mother Shows Child	.27	.32	.26	.33	.26
Number of Specific Turning Directions	.27	.33	.26	.27	.18

(Continued)

TABLE I (Continued)

Maternal Measures	Standardized Tests		Teacher's Evaluations (grades)		
	Lee-Clark Reading Readiness Test:Total	Lee-Clark Reading Achievement Test:Primer	Two-year totals		
			Reading	Arithmetic	Conduct
Teaching Behaviors (Continued)					
Block-sorting Task					
Orientation	.28	.27	.30	.29	.21
Praise and Engagement	.26	.32	.21	.20	.25
Specificity of Maternal Feedback	.18	.33	.27	.32	.23
Requests for Block Placement	-.39	-.36	-.34	-.39	-.25
Use of Standard English					
Language Factor Score	.24	.35	.27	.34	.35
Affectionateness					
Support toward Child (Interviewer's Rating)	.29	.45	.27	.37	.24
Warmth in Block-sorting Task	.18	.18	.08*	.13*	.09*
Affectionateness in Teaching Tasks	.29	.29	.21	.23	.12*

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*not significant ($p > .05$)

Under Home and Community Environment, Rooms per Person is an index of crowding, indicated by the ratio of rooms to people in the home. Availability and Use of Home Resources is a factor score derived from a number of variables reflecting the mother's use of resources in the home: the use and maintenance of physical space, the restrictions placed on the child's out-of-home movements, the physical appearance and care of the home, the child's play equipment and opportunities, the child's involvement in self-help skills and homework routines.

The second heading, Attitudes toward Non-family World, concerns the mother's view of herself and her relation to the institutions and opportunities of her community. Out-of-Home Activities were measured by the number of community groups in which the mother participated (church group, PTA, union, social club, etc.). "Powerlessness" is a factor score obtained from an educational attitudes survey including items like the following: "If I disagree with the principal, there is very little I can do." Personal Optimism was rated on the basis of an interview question about the opportunities in the mother's life: "If things continue as they are now, do you think you will have 1) many opportunities to improve your life, 2) some, 3) few, 4) none?"

The control strategies that the mother used to guide her child's behavior were identified by type, not degree of control. We asked the mothers what they would say before sending their children off to school for the first time and what they would do if their children misbehaved. Their responses showed three types of control strategies that were found to relate significantly to the children's performance. The first was the mother's Use of Imperatives, that is, the percent of the mother's total message which were unqualified commands. Another measure of this type of strategy was called Status-Normative Appeals: the percent of the mother's message units commanding unquestioned obedience to social norms, to institutionalized rules, and to authority figures. The second was Personal-Subjective Appeals: the percent of the mother's message units in which she took account of the child's unique personal attributes, his feelings, wishes, and motivations and urged him to see situations from someone else's perspective. The third approach was Cognitive-Maternal, based on arguments or explanations describing the likely consequences of the child's action.

Table I also reports a group of teaching behaviors found most effective in differentiating effective from ineffective teaching. These measures were obtained from two mother-child interaction tasks. In the Etch-a-Sketch task, mother and child were asked to cooperate in copying geometric patterns onto a screen by manipulating two knobs on an Etch-a-Sketch toy. In the block-sorting task, mothers taught their children to sort blocks by mark and height. The Number of Models Shown Child and Number of Specific Turning Directions were counted while the mother explained the Etch-a-Sketch task to the child. On the block-sorting task, Orientation is a factor score measuring the mother's specificity as she explains the task; Praise and Engagement is a factor score measuring the mother's ability to elicit the child's interest and cooperation during all phases of the teaching tasks. Specificity of Maternal Feedback is a factor score derived from measures of the percent of the time that the mother responded to the child's successful or unsuccessful placements with specific verbalization of labels and focusing. Requests for Block Placement is a measure of the percent of the mother's message units in which she asks or tells the child to place a block, without specific explanation of which one and why.

The mother's use of standard English is represented by the Language Factor Score. This score indicates the complexity of the mother's language and her facility in the use of standard English. It does not indicate her competence in the use of non-standard dialects but is relevant because measures of school performance are typically based upon use of standard English.

Maternal warmth, the last group of variables, was included so that we could compare the effects of cognitive and affective behavior. Support toward Child was based on the home interviewer's rating; Warmth in Block-sorting Task was judged by an observer from the mother's overt behavior during the task; Affectionateness in Teaching Task is a factor score combining eight ratings of maternal warmth in various mother-child interactions.

A number of maternal variables from the preschool study were found significantly related to the child's performance in school as measured by standardized tests and as evaluated by the teacher. Thus it seems justified to argue (with the usual reservations) both for their persistence as maternal behaviors and for their importance in the child's cognitive development. The mother's use of home resources was found significantly and in most cases highly associated (r = .33-.50) with school performance. Maternal attitudes toward the non-family world--participation in out-of-home activities, feelings of effectiveness and optimism--were less strongly but still significantly related to school performance, although the correlations with conduct grades were lower than expected. Maternal control strategies, on the other hand, seemed at least as strongly associated with conduct as with academic grades and standardized test scores. The child who did well in school was likely to have a mother who stressed personal-subjective control strategies and avoided the use of either imperative or status-normative control strategies.

Children who received high academic grades and high objective test scores were also likely to have mothers who showed effective teaching styles in the preschool study. Their mothers tended to be specific in giving directions and feedback, to orient the child to the task, to elicit cooperation and give praise, and to avoid demanding physical actions without accompanying the demands with rationales. The mother's use of facile and complex standard English was found to affect the child's success on school measures to approximately the same degree as the other variables from the maternal cognitive environment. And finally, measures of maternal affective behavior, especially maternal support as rated by home interviewers, were associated with the children's grades and scores. Here again, however, as was the case with mother's attitudes toward the non-family world, correlation with conduct grades was lower than expected. One might predict that active, optimistic, warm mothers would tend to have self-confident children whose classroom behavior would be perceived as "good conduct" relatively independent of academic achievement; unfortunately the data permitted only limited claims for this sequence of maternal attitudes, children's behaviors, and teacher's perceptions. The child of the active, optimistic, and warm mother was as likely to receive good grades in reading and arithmetic as he was to receive good grades in conduct.

The data were also analyzed for sex differences. Girls' school performance, and especially the teacher's rating of their conduct, seemed more affected by maternal behavior than did boys' school performance. Almost all maternal measures except affective behavior were significantly related to girls' conduct grades; for boys, however, only imperative control strategies and use of home resources showed a consistent significant relationship to conduct grades. Mothers who used imperative strategies had sons who tended to get low conduct grades; mothers who availed themselves of a wide range of home resources had sons who tended to get good conduct grades.

When academic grades and objective tests were correlated with maternal variables, sex differences were less consistent than they were with conduct grades, but it remained true that maternal environment was generally more influential on girls than on boys. The major exception was in correlations of maternal control strategies with academic grades and standardized tests. Status-normative and personal-subjective control strategies, when related to academic grades, showed higher correlations for boys than for girls. The imperative control strategy was more highly related to boys' performances on all school performance measures than to girls' school performance. There was also a suggestion that maternal warmth in interaction influences boys more than girls.

This brief excerpt of data from our study helps show why I believe many more studies of the family environment must be made if we are to prepare effective intervention programs. For example, teaching behavior and control strategies need further study to see if it is possible to teach them to mothers, and if so, by what techniques can they most effectively be taught. This is a basic empirical and theoretical question. It is argued in this paper that the mother's behavior in relation to her child is shaped in great part by the influence of the economic, social and cultural community in which she lives and by her position of power and prestige in that community. If this is so, there may be limits to her ability to change her child-rearing behavior without a suitable change in her prestige and status in the community. One of the most significant areas for research and thought is the possible impact of family intervention upon the social and cultural system in which the family exists because it is this system that fosters and tolerates learning environment (including the ghetto school) that is destructive in many ways both to individual families and to the vigor of the nation as a whole.

Socioeconomic Status

From the foregoing discussion, it appears that several family (largely maternal) patterns of behavior do affect the cognitive growth and academic performance of young children. The purpose of this section is to summarize the evidence suggesting a disparity (or lack of disparity) in these parental behaviors at different socioeconomic levels. Since many of the empirical data are skimpy, taken from non-randomly selected research groups, and described in terms of variables not entirely captured by the categories listed above, this summary should be regarded as interpretative rather than as evidence accumulated to test a hypothesis.

A. Intellectual relationship

Some clear social class and ethnic differences have been found on the intellectual relationship between parents and children. For example, a variety of experiments have suggested that middle-class parents tend to reinforce achievement and criticize failure in more consistent and effective ways (Rosen & D'Andrade, 1959; Winterbottom, 1958; Shaw, 1964) than working-class parents do.

There are also social class differences in parental aspirations and expectations of achievement. While working-class parents have high aspirations for their children, they are not as high as those of middle-class parents; working-class parents are also much less likely to expect that the child will achieve at the level of their aspirations (Kahl, 1953; Hyman, 1953; Hess & Shipmen, 1965). Perhaps the significant element is one suggested by Hylan Lewis (1961) in his study of poor families: parents want a good education for their children but lack knowledge about how to get it. Because of experiences with schools in the past, their expectations are lower than their aspirations.

Although it is generally assumed that there are large social-class differences in the amount of verbal stimulation afforded children by their mothers, the empirical base for this assumption is not firm. Although differences appear in laboratory or interview studies (e.g., Hess & Shipman, 1965; Hess et al., 1968), recent studies of lower-class speech patterns (Labov, 1968) show that lower-class families are highly verbal and use complex speech patterns. Perhaps the most significant class differences are related to the pattern and mode of linguistic exchange (Bernstein, 1961; Lawton, 1963, 1964; Loban, 1963) rather than to the amount of speech.

There is little reason, however, to question the studies which indicate that middle-class parents provide much more reading material and read to their children more frequently than lower-class persons, but this finding may not apply to speech.

Perhaps the significant element about the verbal exchange of middle-class parents is the sequencing or "meshing" (comments by one family member relating to comments or events that preceded it) in their patterns of communication (Bee, 1967). This is consistent with the SES differences in India, Puerto Rico, and the United States in exchange of ideas in family communication (Strauss, 1968). The less industrialized and urbanized the society, the greater were the SES differences observed.

In this country, the amount of exposure to standard English in the home is probably not a strong factor, or the impact of television on the speech and thought of preschool children from working-class homes would be more apparent since TV viewing varies little by SES (Schramm, Lyle & Parker, 1961). A concept of linkage between the speech of mother and child is needed to account for the differential effects of verbal exposure of middle- and lower-class children. Perhaps there are contingencies established by consistency and timing of verbal reinforcement to the child's specific behavior that are relevant to the child's verbal achievement.

B. Interpersonal affective relationship

It has frequently been found that middle-class mothers are more accepting of children's behavior and more permissive in regulating this behavior (Bronfenbrenner, 1958). In addition, evidence has accumulated supporting the notion that parents' self-esteem and esteem for others are related both to social class and to children's behavior (Bradshaw, 1968; NIHD, 1968; Hess, 1968). It should be noted, however, that the definition of social class varies from study to study. When race and ethnicity are not included and when a certain minimum level of status and subsistence is passed, occupation, education, and finances seem to play a lesser role in esteem than is generally assumed (Rosenberg, 1965; Coopersmith, 1967). Nevertheless, significant social class differences have been found in our study dealing entirely with Negro families: middle-class mothers reported more optimism about the future and more confidence in their ability to deal with the school than did working-class mothers; there was also a difference between ADC families and other working-class families (Hess et al., 1968).

A few studies deal directly with the mother's attention to the child, and a number of others provide relevant information indirectly. When Kamii and Radin (1967) observed Negro mothers with their preschool children, they found working-class mothers less likely to respond to the expressed needs of their children or to attempts by the child to get their attention. In our study of maternal socialization of cognitive behavior, mothers from working-class backgrounds were much less likely to anticipate their children's needs while teaching them or to see things from the standpoint of the child in hypothetical situations where the child was presumably at fault. In a study by Zunich (1962) middle- and lower-class mothers were observed through one-way mirrors during unstructured interaction with their children. Middle-class mothers were likely to make contact with the child more often and to do more directing, helping, interfering by structuring, attentive observing, and playing with the child. Lower-class mothers were high on remaining out of contact.

A generally congruent picture of lower-class family life is described by Hylan Lewis (1961) in his study of poor families in Washington, D.C. Unguided and unplanned occurrences outside the family affect the child at a much earlier age in low-income families; apparently because parents become baffled by the child and leave him to his own devices. Lower-class parents may have a more difficult time trying to understand their children and are less likely to anticipate, plan and attend to the child's behavior in ways that make his social and physical environment relatively predictable and secure.

C. Interaction patterns

Many studies of parent-child interaction deal in one way or another with maternal behavior directed toward restricting, changing, and discouraging behavior in the child. This type of interaction has been labeled "democratic-authoritarian" in the Fels work, "permissive vs. restrictive" by others, and a disciplinary issue by others. From the data summarized by Bronfenbrenner in his classic review (1958), middle-class mothers are more responsive to inner states and have a more "democratic," more accepting relationship with their children; lower-class mothers are more concerned with external standards of conduct and adherence to norms of the community. Similar findings are reported by Kohn and his colleagues (1959a, 1959b, 1960).

Class differences in the use of authority in direct dealing with children are consistent with this general picture. Hoffman (1960), in describing influence techniques employed by parents, discusses a category he calls unqualified power assertion (direct threats, deprivations, physical force). This technique is used more frequently by lower-class parents than by parents from the middle class. These reported behaviors are congruent with attitudes expressed on the PARI, a parent attitude instrument devised by Schaefer and Bell (1958). One of the two major factors of the PARI is an "authoritarian control" ("approval of maternal control of the child") factor. Responses showing approval of control are negatively related, in various studies, to occupation of father and education of mother (Becker, Peterson, Hellmer, Shoemaker & Quay, 1959; Zuckerman, Barrett & Bragiel, 1960) and to measures of social class (Garfield & Helper, 1962). Within social class, level of education correlates negatively with the scores on the control factor (Becker & Krug, 1965; Marshall, 1961). Other studies have shown that mothers from lower-class backgrounds see their children as needing more control than do mothers of middle-class origin (Gildea, Glidewell, & Kantor, 1961).

In our work in Chicago we identified three strategies of maternal control: imperative or status-normative (commands based on norms of the groups or community and position within a family system); subjective-personal (based on consideration of one's own inner states and those of others); and cognitive-rational (based on explanation of the future consequences of a given act or pattern of behavior) (Hess et al., 1968). Mothers from working-class backgrounds tend to use proportionately more imperative and status-normative statements in describing their interaction with their children. Observations of mothers in the home in interaction with infants (Bradshaw, 1968) also show that lower-class mothers rarely use explanation when punishing their children.

Most of the variables discussed so far describe the behavior and attitudes of the parent and the situations where these are imparted to the child, and in that case they reflect parental teaching. More and more researchers, however, are showing an interest in situations in which the mother consciously or directly plays the role of a teacher. Some of these studies report social class differences. In 1967, for example, Kamii and Radin reported tentative evidence that middle-class Negro mothers reward their children more often for desirable behavior and are less likely to give orders without explanation than lower-class Negro mothers. Slaughter (1968) reports that the extent of direct communication between mother and child during interaction influences academic achievement and tends to show social class differences.

Our investigation of structured interactions (Hess et al., 1968) suggests that middle-class mothers are more likely to provide the child with an orientation to the task, to request a verbal response rather than (or along with) physical compliance, to be specific in their instructions, to use motivation techniques that involve explicit or implicit reward, and, in general, to provide the child with information he needs to complete the task and to monitor his performance.

PART II

Links between the Society and Individual Behavior

Underlying the different approaches to parental behavior and children's school performance are several implicit assumptions about the relation between society and individual behavior. They are suggested in these questions: What are the conditions of the child's external social and cultural world? What are the adaptive consequences for the adults and children who live under those conditions? What specific forms do adult orientations to the environment take when adults interact with children? What are the behavioral outcomes for the children? This sequence of questions assumes a linkage between the society - its institutions and the conditions of life it offers - and the behavior of adults, who then act as socializing and teaching agents for their children. The questions also assume that there are both direct and unintenionally mediated linkages between the environment and children's behavior.

Children interact with the environment directly at times absorbing information about the norms and values of the social system and developing a pattern of response to it. In some of our own studies, for example, mothers in slum areas have reported that their young children are fearful of fire, rodents, dark areas, attack by someone stronger, etc. At an older age the child in the slum community acquires information about society and his own place in it as he becomes aware of the rewards and achievements available to others. To the degree that this type of experience conveys a view of the society and its contemporary inequalities and differences, it transmits norms of the system. Thus it is part of the process of socialization even when no socializing agent is intentionally involved at the points of interaction.

It is not clear whether the behavioral outcomes of direct contact are different from those mediated through parents and other agents. Studies of parent-child similarity show that parental attitudes and values can account for only part of children's behavior in many areas and in others, for very little at all (Jennings & Neimi, in press; Reiss, 1965). But because little research has been done on behavioral outcomes of direct contact vs. behavioral outcomes of mediated contact, current studies of deprivation tend to treat the two as similar. Thus no distinction between the two can be made here. However, it does seem we have underestimated the extent to which direct (though diffuse) experience with the environment, through interaction with peers, TV, newspapers, popular music, observation of life in the community, awareness of social and economic inequality, and other points of contact, directly shapes the child's cognitive and behavioral strategies and resources.[5]

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[5] It should be noted in passing that the concern of this discussion is the mechanisms of exchange between the environment and the child, not the relative effects of genetic and environmental sources of influence. This interest in the specific processes of the ecology of human learning rather than the relative impact of experience and genetic contribution reflects contemporary pursuits in socialization research.

This is not to say that socialization theory rules out the possibility that some social class differences may be associated with genetic substructure. A number of scientists have emphasized this possibility recently and have called for more research to evaluate the relative contributions of genetic and non-genetic factors in the development of human behavior. A recent statement by the Academy of Sciences in response to these calls for new research takes the position that the complexity of the problem makes it extremely unlikely that research would produce useful information (Science, Vol. 158, No. 3803, Nov. 1967).

In a discussion of Head Start, a consideration of the linkages between social structure and individual behavior necessarily deals with the impact of disadvantaged environments upon individual behavior of young children. The literature dealing with issues of "compensatory education" contains many descriptions and assumptions about the ways in which black ghetto and other low socioeconomic conditions affect the cognitive and school behavior of young children. These issues are discussed in this section by sketching a view of the lower class urban Negro's environment, the effects of this environment upon his behavior and then, by drawing upon recent writings, outlining a number of implicit models of deprivation and its presumed impact upon individual cognitive behavior.

Features of Disadvantaged Environments

An individual's position in the socioeconomic hierarchy of a society is related to a great many of his characteristics and behaviors. This discussion will focus upon those that seem most relevant to educational achievement. Economic resources are not directly considered; their role is assumed as basic to many other areas of behavior.

Perhaps the most significant feature of the social structure is the degree of power it awards an individual to control his own life, to implement his plans, to protect his resources, his family, and himself. It is in this area that urban lower-working class Negro adults are the most disadvantaged. They are subject to exploitation, have difficulty defending the privacy of their homes against invasion, by welfare agencies, for example (Cloward & Piven, 1967), and are more likely to be arrested and detained without justification. In addition, they tend to be diagnosed in mental health clinics as more maladjusted and have poorer prognoses than middle-class patients with similar records (Haase, 1956; Riessman, 1964), and they are given less adequate treatment in hospital emergency wards (Sudnow, 1957).

A lack of power and economic resources makes the urban working-class Negro vulnerable to disaster. The routes through which misfortune may strike are numerous. Urban Negroes are those most likely to be unemployed with little warning, to be victimized by bureaucratic or legislative delay, and to be without financial reserve, either their own or from ready outside sources (Cloward & Elman, 1966).

Urban working-class adults, especially Negroes, command relatively little prestige or esteem and are subjected to discrimination of varying degrees. This finds expression in occupational experiences that differ in essential ways from those of middle-class adults. For example, semi-skilled or unskilled workers are given little or no part in the policy- or decision-making process; they carry out the decisions of others. This difference in occupational roles may be an inherent and virtually unmodifiable characteristic of a complex industrialized system (Kohn, 1963; Inkeles, 1960).

Lack of money, power, education, and prestige restricts the working-class person's available alternatives for action. He is caught in a cycle in which social reality and physical immobility reduce his options concerning place of residence, education, employment and action in other arenas.

Another feature of the social structure is the relatively small overlap between the experience of lower- and middle-class adults. The lower-class adult is more often exposed to a lower-class way of life, especially that of the urban Negro. The domestic worker, for example, becomes acquainted with intimacies of middle-class life, but the employer is unlikely to know anything of what the servant considers her real life. Television also conveys middle-class attitudes and dreams; the lower-class adult may not learn much from TV about the middle class, but the middle-class white learns even less--a great deal less--about the urban Negro. This lack of mutual experience and understanding contributes much to discrimination and social alienation.

The Effects of the Environment upon Adults

The impact of environmental circumstances is to encourage and foster a number of adaptive responses in the adults of the community. The reports are by no means uniform, of course there is great variation in the patterns that individuals develop and express. For purposes of brevity, however, this discussion is concerned with general trends and tendencies that apply in different ways to different individuals.

Working class adults tend to perceive and structure social relationships in terms of power. This tendency may underlie the greater incidence of physical punishment in lower-class families (Bronfenbrenner, 1958). An orientation to power would seem to follow from the lower-class person's position in society. He himself has little voice in decisions affecting his daily life, while those who have status and authority also have power. In line with this orientation, the lower-class father tends to equate his children's respect with their compliance with his wishes and commands (Cohen & Hodges, 1963;

Kohn, 1959). The middle classes have recently been made strongly aware that the urban working-class Negro feels both an orientation to power and a lack of power in the broader community.

A cluster of attitudes expressing low esteem, a sense of inefficacy, and passivity are, perhaps, not so much stable lower-class personality traits as they are responses to frustrations and unpredictability. Contingencies linking action to outcome are frequently missing or intermittent in the ghetto. One adaptation to this is to elect short term goals, seek more immediately predictable gratification (Davis, 1948), or resist and occasionally use illicit means to achieve usually unavailable rewards (Cloward & Ohlin, 1960).

Another consequence of lower-class life circumstances is to encourage a simplification of the experiential world and a restriction of the range of linguistic modes of verbal exchange (Bernstein, 1961, 1964). This follows in part from the interlacing of language and behavior and from the limited behavioral alternatives in the lives of lower-class persons. It does not imply that they speak less often or less effectively, but that the patterning of their speech differs according to the nature of their interaction (Schatzman & Strauss, 1955).

Another adaptive consequence of lower-class life is an unusual degree of reliance upon non-work-related friendships and kinship contacts for social support. Institutions are not seen as sources of support, and the world of social contacts is divided into friends and strangers. From strangers a lower-class adult has no reason to expect fair or helpful treatment; friends are salient.

Similarly, the lower-class adult tends to mistrust the unfamiliar and, as a corollary, reject intellectuality. He feels unable to compete in unfamiliar modes of reasoning and is reluctant to accept standards of evaluation that would find him inadequate. In addition, the circumstances of his life (at work, for example) orient him toward practical action rather than toward speculation and evaluation.

The relative isolation of the lower-class person from middle-class experience helps limit his skill in getting and judging information that might affect his life. His ignorance makes him susceptible to exploitation by individuals and agencies both within and outside his own community.

Finally, the lower-class person is likely to respond to his circumstances with anger and resentment. Aware of his lack of power, exploitation, low esteem, and limited opportunities, he often feels deep rage (Grier & Cobb, 1968). Whether his anger is turned upon himself, thus further limiting his effectiveness in the larger community, or turned outward toward the immediate community and ultimately against society as a whole, it remains a central consideration in the urban Negro's life.

What I have said so far suggests the context within which models of deprivation are to be understood. First, the child's behavior must be seen as the outcome of both direct and mediated contacts with his physical, social, and cultural environment. Second, it must be recognized that working-class adults mediate between the environment and children's behavior, and that these adults are themselves shaped by the environment in characteristic ways. Their adaptive responses to circumstances of lower-class life will surely be reflected in their behavior as mediating agents.

We are accustomed to thinking of the school as a mediating agent; what I wish to stress here is that the family is also a powerful mediator. As a result, no model can be adequate and no intervention program can be effective unless the family's influence upon the child's cognitive behavior is accurately understood.

Implicit Models of "Deprivation"[6]

1. The family is damaging. The first approach, or implicit model, stresses the presumed damaging effects of the family on the child's potential development. The family is seen as hindering rather than helping the child's growth. Because of the child's traumatic, esteem-lowering experiences within the home he passes a "critical learning period" on some tasks, and later education cannot overcome this deficiency. In other words, the effects of experience may be irreversible, permanently damaging the child's emotional and intellectual capabilities.

Those who believe that the family is detrimental to the child's growth and development argue in consequence that intervention, to be effective, should take place during the child's first few months or years of life. Proponents of this model are likely also to urge that in some instances the child should be removed from the family.

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[6] Strictly speaking, these are patterns of assumptions rather than models.

2. Cultural disparity: family and school in conflict. A second approach stresses cultural disparity. In this implicit model the family and school are seen to conflict as the result of ethnic and social class differences. Problems occur for the child when the teacher lacks knowledge of and respect for the ethnic culture that his pupils represent, and when the curriculum, designed primarily for middle-class white children, fails to take into account the cultural milieu within which the child must learn to operate.

Cultural disparity models emphasize differences in the structural features of the subculture and the larger sociocultural system. These models most often take three forms:

a) Deprivation is seen as the outcome of cultural pluralism.

It is argued that ethnic differences and self-imposed or involuntary segregation of ethnic groups into enclaves or ghettos induce disadvantages of various kinds. Ethnic dialects and languages have lower prestige in the community than does standard English (Lambert & Teguchi, 1956); occupational and educational opportunities are likely to be restricted not only by discrimination but by lack of information and contact with other segments of the society. The nature of the deprivation, however, is not so much in absolute level of capability and achievement as in the differential evaluation of ethnic characteristics by the dominant society and by other relevant ethnic groups.

b) Disadvantage is viewed as the learning of behavior not rewarded by middle-class society.

Here it is argued that children in disadvantaged areas in the society, especially in slum communities, learn behavior that is appropriate and useful for their home environment but not useful for subsequent experiences in the school, not rewarded, and therefore not successful. The emphasis of this point of view is not on the child's inability to learn but on the lack of congruence between the behavior he had learned and the behavior valued by the middle-class, school-oriented society.

c) Disadvantage is due to the inadequacy of social institutions.

This form of the cultural disparity model is related to the preceding type in which disadvantage is seen as learning not rewarded by middle-class society. It differs in stressing the defects of social institutions. The lower-class person does not bear sole responsibility for his disadvantage; the blame falls as much on the institutions of middle-class society. Institutional representatives in the school, the police force, and other parts of the social structure fail to understand the lower-class child or adult, to be sympathetic with his problems, to be able to communicate with him, and in other ways to permit him to learn about and relate to the central components of society. The children of poor households may have poor learning patterns, little practice in abstraction, and poor discipline, but it is also true that teachers often are ignorant of the children's needs, have distorted perceptions of the abilities, and lack the skills to teach them properly.

Regardless of their form, cultural disparity models all acknowledge that the patterns in social subcultures are opposed to the dominant middle-class value system. The school's orientation is toward planning for the future. There is an emphasis on abstract and objective discourse, on learning for its own sake, on respect for the law and private property, civil obedience, religion, and on rules of propriety in sexual and verbal behavior. These values conflict with the social realities of the vernacular culture maintained in "deprived" areas.

It is clear to those who know ghetto areas intimately that "cultural deprivation" and "verbal deprivation" are poor concepts with which to approach educational problems. Encountered on their own ground, ghetto children are not empty vessels waiting to be filled with middle-class culture. They are in contact with a different and opposing culture; in the years from five to fifteen they come to know their own culture more perfectly, the school culture less and less. Many reject the school and its values explicitly. For others, the conflict that interferes with success in school is hidden from view.

Cultural disparity models suggest that intervention should be based on: (1) a recognition of subcultures and an understanding of their contribution to the wider American society, (2) a recognition of the disparity between what is rewarded in the neighborhood and what the school rewards. School achievement and values may be contradictory to what helps the child adjust in his own group, and (3) a recognition of the inadequacies of current social institutions that are based on and adhere to middle-class norms.

3. Deficit models: family and school not in conflict, but family is deficient. A third approach to disadvantage is to view family and school as allies sharing the same goals and values in educating children. The family, however, is seen as

a weak or deficient partner incapable of handling the responsibility for the child's early education. School learning and enrichment programs are necessary to provide additional experiences; the school and the family need to work together to develop the child. Subsumed under this approach are several models of psycho-social deprivation, of which the two most common are the malnutrition model and the underdeveloped resources model.

a) Malnutrition model.

Perhaps the most popular deficit model represents psycho-social deprivation as analogous to malnutrition. The child who is "deprived" has received insufficient quantities of the nutrients needed for proper growth and development. Family resources are not adequate to educate the child; thus he has insufficient information and concepts when he enters school. The family fails to provide: exposure to beneficial stimulation; meaningful interpretations of the experiential world; instruction on coping with contingencies in the environment. The child has not learned at home the concepts he will need at school or the vocabulary required for effective functioning in contemporary society; he has not been exposed to cultural artifacts and experiences of various sorts; his store of information about the world and the way it works is inadequate.

In short, his life is lacking in the kinds of stimulation that are needed to promote effective cognitive and social growth. This point of view presents learning as the acquisition of relevant experiences and relevant knowledge. However, relevant means useful in the middle-class, school-oriented society.

b) Underdeveloped resources model.

Some hold the view that though a child may have learned to operate within his own society, his environment is relatively restricted. The child's behavior, therefore, lacks the complexity needed if the child is to participate fully in other parts of society. In other words, the child's culture may equip the child to function within sub-cultural limits, but the school needs to intervene to develop broader capabilities that have not been encouraged.

4. Social structural model: family mediates environment. This last approach, like the deficit models just described, treat the family as an important partner in education. But instead of stressing how the family is deficient, it emphasizes why these deficiencies exist: it is the structure of society that makes the lower-class family impotent as an educational agent. Although the family has an important role to play in providing the child with a learning framework, the low status and powerlessness of poor families in modern society limit the family's influence. This is the result of factors familiar to all of us. For example, competition for scarce resources helps keep the poor in poverty; the lower-class individual lacks alternatives for action within the society; there is discrimination against ethnic groups and poor people; effort is often not related to reward.

In this context disadvantage is a lack of meaningful pattern in the experiential world. The child's experience does not include an adequate array of patterns, sequences, or associations between events to allow him to develop an understanding of the relationship among elements of the experiential world. He is not accustomed to seeing cause and effect, for example. The stimuli to which a child is exposed are not presented in a context that permit him to use them or generalize them to some future situation or experience. Deprivation, then, is a matter not of the absence of stimuli but of the absence of pattern, association, and sequence in the stimuli, a lack of meaning in the external world and a consequent inability to organize and use the stimuli with which one is familiar.

Another way to express the lack of meaningful patterns in the experiential world of the disadvantaged is to say that the environment lacks contingencies, or systematic, predictable rewards and consequences. In deprived circumstances, for example, socializing agents may not organize the stimulation of the environment to provide effective learning schedules (Gewirtz, 1968; Hess, 1968; Hess & Shipman, 1967). The environment of the disadvantaged child is arranged (primarily by the parents or teacher) in such a way that the desired behavior is not adequately encouraged by reinforcement schedules. According to this view of deprivation, human and environmental resources are not being used in a way that will produce the desired results. Stimulation and direction may, for example, be random. This feature of socialization is, in our view, related to the lack of predictability that parents feel in their own relationship to the society and its rewards.

The social structural model suggests several possible intervention techniques. First, the school should expand the child's knowledge of how to act effectively in the larger society. Second, attempts should be made to get the mother involved in the school's program and to expand her sphere of knowledge and influence, with the expectation that doing so will modify the child's home environment.

Third, intervention programs should foster community organization and involvement in the schools. This model takes into account the features of the socio-cultural environment mentioned earlier: powerlessness, low esteem, vulnerability to disaster, etc.; it also includes consideration of their effects upon individuals in the sub-culture. Therefore, it seems likely that all models of deprivation must ultimately include the effects of social structure upon individual cognitive behavior and the need to modify that structure if intervention techniques are to succeed.

Interaction between Social Structure and Child

Let me briefly review current ideas about the processes linking social structure to child-rearing practices. First, a popular view is that there is a functional tie between economic activities and child-rearing practices of adults, either directly or through the salience of values rewarded on the job and, therefore, in the home. For example, Kohn (1963), in interpreting the relationship between social class and parental values, suggests three basic differences between middle and working classes, over and above the differences in income, prestige, and security. One is that middle-class occupations are likely to deal with symbols, ideas, and interpersonal relations, while working-class jobs entail manipulation of things. Second, middle-class occupations permit and may demand policy making, self-direction and autonomy; working-class occupations are more likely to be supervised, administered and routinized. Third, success on the job for the middle-class is likely to be the result of one's own initiative and skill, while success or advancement in rank or wages for the working-class person is more frequently tied to group efforts, particularly the union's. The significant axis, for Kohn, is self-direction vs. compliance to rules of others. These values and patterns of response appear in the techniques of control exercised by parents over children, in the parents' judgment of characteristics as ideal or undesirable, and in their orientation toward external demands rather than inner subjective states.

These linkages between the social and occupational structure and child-rearing are formulated in a similar fashion by Inkeles (1960). In his view, the emerging industrial society brought with it a role-structure that demanded and presumably rewarded patterns of behavior appropriate (and in this sense necessary) to industrial occupations, including acceptance of an authority hierarchy, standardization and order, regard for time, and cooperative activity. This pattern of connection between the job and parental values is bolstered by other social class differentiations, especially level of education which gives middle-class parents more facility in dealing with ideas and verbalizing motives. A later paper (Inkeles, 1966) extends the model of socialization toward adult roles beyond the occupational and industrial arenas to the development of competence for social roles throughout the society.

Although Inkeles' formulations emphasize the outcomes of socialization rather than the process, they provide an orientation for considering social class and ethnic differences in both. If society demands differentiated roles, individuals must be trained to fill them. While it may be difficult to accept the assumption that parents are intentionally acting in service of the total system, it seems likely that the availability of roles and the visibility of established statuses and positions in the occupational and social structure do make children and adolescents aware of the possibilities. Moreover, the school system and, to a degree, parents' attempt to provide training oriented toward roles in the system. In part, the process is a matter of practicality; children are oriented toward visible opportunities in the economy. In part, however, it is mediated by values developed in different segments of the society. Dissimilar experiences at unequal positions in the socio-cultural system will lead to differences in values, differences in socializing efforts, and differences in socialization.

Another way the social system affects individual behavior is through the individual's growing awareness of his relative position in the hierarchy and of the prestige and opportunities available in the society at large for persons who possess his characteristics and live in his community. Mead, Cooley, and others in sociological tradition have pointed out that self-concept arises in part from the expectations, attitudes and behavior of others. Self-concept and an awareness of one's position come from observation and impersonal sources and from specific experiences, particularly within the family. The resulting self-concept in turn affects the quality of the individual's performance, attitudes, and values. The work of Katz and his associates, for example, suggests that perception of inferiority appears to lower performance (Katz, Goldston, & Benjamin, 1958; Katz & Cohen, 1962). This happens through an expectation of low performance and possibly through a desire not to risk the disapproval of a high-status person by appearing to equal or surpass him. An attempt to alter the status positions in such face-to-face relationships would be interpreted as aggressive.

Low self-esteem may affect the performance of parental roles in various ways. Perhaps, as McKinley (1964) argues, low status in occupational areas creates frustrations that fathers are likely to express in aggressive or stern behavior at home. It may also appear in tendencies to restrict the initiative and assertive behavior of children, or it may be transmitted as a more diffuse sense of depression and inability to cope with environmental problems.

A third suggested route of transmission for social class differences is through traditional cultural and religious values that lead to different types of child-rearing practices. The prestige and position of ethnic minorities in the society is, of course, one aspect of the social structure. To the extent that immigration brought ethnic groups who entered the occupational system at working class levels and who, to a great extent, remained there, these ethnic influences operate to perpetuate social class patterns of child-rearing and performance. Differences in values of ethnic groups have been regarded as relevant for differential achievement (Strodtbeck, 1958; Rosen, 1959), although our information about the extent to which this operates throughout the country is limited. For the American Indians, the ethnic and cultural differences are compounded by isolation, powerlessness, and low esteem, producing patterns of behavior and adaptation dramatically incongruous with the norms of our society.

A fourth conceptualization of the mechanisms of transfer between social structure and behavior is emerging from the formulations and research of Bernstein (1961, 1962 a & b, 1964) and in my work. In this view, the child is socialized into modes of communication and strategies of thought that develop in response to specific interactions with salient adults, especially the mother. Adaptive consequences developed by the mother are transmitted through her linguistic modes, regulatory strategies, cognitive styles, and self-esteem. These early modes of dealing with the child induce similar adaptive consequences in the child.

This type of socialization is not a direct teaching of valued behavior, as formulations of linkages to occupational experiences argue, but emerges from the child's responses to parental behavior, which itself is linked to social structure. It is not that the low-status child is taught to be passive; rather, the unpredictability of his life and the lack of orderly contingencies in his experience with his environment induce caution and apathy. The sense of powerlessness and of lack of alternatives for thought and action that adults in the environment experience are not transmitted as values but expressed through styles of behavior that induce corresponding responses in the child. Mothers in slum areas, for example, orient their children toward the public school in terms of the problems of dealing with the authority system of the school rather than in terms of problems of learning. This follows in part from the mother's sense of inefficacy in relation to the school, from her expectation (or fear) of failure, and from the prolonged experience in the community and at work, of being acted upon rather than acting. The responses in children are either compliance to the system or resistance of it through social behavior, either violent or evasive (Cloward & Ohlin, 1960).[7]

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[7] This view of the interaction between the cultural system and individual adaptive behavior derives from the formulations of Davis on the effects of experience in social class environments (Davis, 1948).

It should be clear that these several theories about the processes linking social structure to child-rearing practices relate to all implicit models of "deprivation" and should be considered when planning intervention programs. To restrict change to only one facet of the complex, dynamic interrelationships between society and children's behavior is to court failure. We must understand the strength and significance of forces now at work in shaping behavior if we are not to waste our efforts and our money in attempts to alleviate disadvantage.

Governmental Intervention in Family Life

However worthwhile their stated objectives, intervention programs designed to alter the relationships and interaction between parents and children may have unintended long-term consequences. Both a word of caution and an attempt to anticipate some of those long-term effects on family life and the role of family in society therefore seem to be in order. These comments should be understood not as predictions but as possibilities to be taken into account in program planning.

There are limitations, clearly, to what a program can accomplish by working directly and solely with families. If, as has been argued in this paper, an impoverished environment affects the child directly as well as through his interaction with adults or other agents of socialization, it follows that working with the family alone will have a limited influence on the child. Also, if it is true that the family is the chief mediator between child and environment, attempts to change the family may be counteracted by the social and environmental pressures that brought working-class families to their present state. The influence the family exerts on the child is a result of many pressures on the family itself that originate in the conditions of the society. Perhaps changes within the family, if they can be effected despite conflicting pressures, can in the long run produce changes in the social and cultural environment. But it should be recognized that changes in the family may be difficult to bring about unless they are supported by programs of wider social and economic reform. Programs of intervention may make it possible for individual children and their families to move out of the slums--a worthwhile goal in itself, but one that does not touch the needs of enough people. A large segment of society needs the assistance that intervention programs are designed to offer.

Parent involvement programs are usually designed for young children, but intervention programs for parents of small children will not necessarily assist the parents with children who are past the fourth or fifth grade. The parents' effectiveness, even after intervention, may be limited to the early grades by their own limited schooling. And if the programs are effective, the children will surpass their parents. What are the consequences for a child who realizes by grade 5 or 6 that his father cannot help him with his school work? What happens to the parents' prestige and to their effectiveness as models for the child? What are the consequences for family solidarity and the parents' potential as socializing agents? The possibility presents itself that our programs may in the long run promote the generation conflict between child and parent.

The family and the school are the two major socializing agents in American society. There are signs that the impact of the school is becoming greater and that the role of the family as an institution of the society is declining. Whether they intend to or not, intervention programs like Head Start and early education programs organized by the schools with government support affect the balance of power between these two major socializing agents. As the school is assigned more time in the child's life and more responsibility for teaching him when he is young, the significance of the family must necessarily decrease. It has been noted by sociologists that the role of the family as an economic, educational, social, and procreational unit has declined considerably over the past hundred years. Its functions may now become even narrower as a result of government programs.

In the past there has been a fairly clear differentiation between the responsibilities of family and school. The family has been responsible for procreation and economic support, and also for the child's personality development, particularly with regard to impulse control, emotional growth, moral development, and the inculcation of values. Although there is some consensus within the society on these norms, there is considerable room for individual variation from family to family with respect to the content of values and behavior, techniques for transmitting them, choice of a time in the child's life at which to teach values and other nonacademic behavior, and so on.

As the school reaches more and more of the child's life in the early years this differentiation is less clear. The distinction between cognitive and emotional growth that can be made in the public school curricula is not so easily made at the preschool level. In the preschool years there is a greater mingling of emotional, cognitive, social, and moral behavior in the child. In early intervention programs the school not only takes more of the child's time but becomes involved in a much wider range of significant behavior. As the teacher, playing the role of child-care expert, becomes more and more involved with the mother and the child, the traditional differentiation between the roles of mother and teacher becomes blurred. If teacher's social status, education, sponsorship, and apparent expertise make her the expert when roles overlap, what does this do to the mother, the child, and the institution of the family?

It could be argued that middle-class mothers have been using the nursery school for some time without apparent damage to the family. However, middle-class mothers and teachers are roughly equal in education, training, background, and social status, and the mother is free to turn to other resources (the mass media, literature, neighbors) for information about specific issues and in other ways to exercise her own initiative and control her impact on the child. The lower-class mother, however, is currently below the teacher in status, etc. and may be required to cooperate with intervention programs as a condition for her child's participation. She is likely to be intimidated by the prestige and influence of the school and to feel that the teacher and the parent intervention program, by teaching her the "right" way to work with her child, mean that the way she has been doing it is wrong. Since expertise in one area has a way of spreading into adjacent areas, mothers tend to turn to teachers for assistance in areas not related to the specific program objectives. Although the information or advice the mother receives may well be helpful, there is a danger that the process of getting it will lock the mother into a suppliant role. Even if she rejects this role her relatively subordinate place in the social structure of the community and society makes it difficult for her to resist indirect influence of the school.

A program that places the mother in a subordinate and independent position seems likely to encourage either dependence on and compliance with school or frustration and rebellion. The latter might arise in several ways: the mother may resist a dependent relationship with the teacher, for example, or her dependence may for one reason or another not be honored. An obvious problem is that the change of teachers from one year to another as the child moves through school will bring the mother into contact with teachers who are quite different in their ability to deal with her and the problems of her child, introducing discontinuity and its possible frustration into the relationship.

It seems likely the school will become more nearly the exclusive socializing agent in the society and thus that the school will play a larger role relative to that of other socializing agents, in the lives of children and adolescents. There are, of course, ways to counterbalance this tendency. Indeed, the growth of community schools and the emergence of parent power in opposition to schools may indicate not only a desire for better schools but resistance to their increasing influence.

The difficulty that communities have when they try to change the school system testifies to the inertia of a large bureaucratic system. If programs of parent intervention are developed and incorporated into the public schools, they probably will not be able to resist the influence of bureaucratization and institutionalization.

Judging from what has happened to other large institutions, it should be expected that programs will become more homogeneous and more likely to be established and controlled from outside the classroom. Tactics and techniques may be chosen on the basis of decisions made by committees, government agencies and the like, and made a part of teacher training programs. The need for individualized programs based on the requirements of individual children and groups of children (such as those from different ethnic groups) are likely to be ignored. Variety is hard to build into a large bureaucratic system such as a city school.

A related issue concerns the basis on which socialization guidelines will be determined. If programs of intervention that involve emotional and social growth are adopted by the schools, they will draw from the recommendations of experts engaged by local or national governmental agencies. There would be some question in the minds of many behavioral scientists as to whether we have enough information at the present time to justify the development of wide-scale, long-range programs of intervention in family activities at the preschool level. In any case, such a system assumes a hierarchy of talent, with the ultimate experts exerting considerable influence in teacher training programs, research policy, and curriculum and evaluation.

If intervention programs achieve their present objectives, there will be a period of change and transition in the family and the community in which Head Start and other compensatory programs are located. Whatever the relationship is between the family and the school at the present time, then, it is likely to change. Perhaps intervention programs should attempt to monitor that change and to anticipate problems that it may cause. For example, it seems essential that programs be flexible so that they can change as the relationship between the family and the school is altered. Through their effect on parents, intervention programs will also have certain consequences for the community itself. For example, mothers who get to know each other through the program and gain from it a heightened awareness of themselves in relation to the school may create community organizations to assist or combat the schools.

This effect, like some of the others I have mentioned, may be positive and necessary if we are to reach the educational goals we seek. However, long-term consequences are not typically built into programs as part of their objectives, nor are they considered and analyzed in relation to the economic, social, and political life of the community. It is of great importance to recognize that intervention programs are not a new permanent state of affairs to which we must adjust, they both initiate social change and become targets of change. So they must be built with mechanisms that permit flexible adaptations to changing pressures and needs.

FIGURE I

SUMMARY OF STUDIES OF PARENTAL INFLUENCES ON CHILDREN'S ACADEMIC ACHIEVEMENT AND COGNITIVE BEHAVIOR

Demand for High Achievement

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1958	Moss & Kagan	"Maternal acceleration," maternal concern for child's growth and development and achievement during the child's first three years of life correlates with IQ at age three.	Fels Parent Behavior Rating Scale
1959	Rosen & D'Andrade	Parents of boys (9-11 years) with high need achievement have higher aspirations for their sons, set standards of excellence even when they aren't part of the task, and expect their sons to do "better than average." Mothers who foster achievement training have a greater concern about the child's success and reward with approval and punish with hostility.	Observation of parents as they interacted with their sons who were performing a series of five laboratory tasks. Parental behaviors indicating these variables include parental attempts to push performance up through expressions of enthusiasm, and urging the child on. Also parents attempted to push up performance through expressing their displeasure by indicating disappointment at speed and level of performance (particularly true of mothers).

Demand for High Achievement (continued)

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1960	Crandall, Preston & Rabson	Direct maternal rewards of achievement efforts and approval-seeking were predictive of children's achievement behavior (aged 3-5 years).	In home observation of mother-child interaction, mothers were rated on their (a) affection, (b) rewarding of help-seeking behavior, (c) rewarding of emotional support-seeking, (d) rewarding approval-seeking, and (e) rewarding of achievement efforts.
1963	Kagan & Freeman	IQ for girls (ages 3-1/2, 5-1/2, and 9) were related to mothers who were acceleratory (when child was between the ages of 4 and 7) and more critical (when the child was between the ages of 2 and 4). Parents who value education reward academic competence and intellectual skills.	Fels Parent Behavior Rating. Ratings of mother in home situation when the child was between the ages of 2 and 7.
1963	Bing	Mothers of high verbal achievement children (5th grade) punish the child less for poor speech, and criticize more for poor academic performance.	Interview and questionnaire response to open-ended questions related to mother's interest in child's good speech habits, verbal freedom allowed, and emphasis on academic achievement.
		Mothers of high verbal achievement girls (5th grade) pressure their children more for achievement, and improvement.	Observation of interaction during task performance.

1963 1964	Dave Wolf	Child's (5th grade) IQ and educational achievement correlated with the parent's intellectual expectations for the child.	
1964	Crandall, et al	Positive and negative reaction of parents to child's intellectual achievement efforts were predictive of child's academic achievement (grades 2-4).	A rating of parental feelings as expressed during an interview.
1964	Katkovsky, et al	Parents' values, expectations, standards and satisfaction with performance is associated with daughter's performance in the areas of intelligence and artistic skills and for sons in the areas of physical skills and mechanical skills.	Interview A - multiple choice questionnaire where each item described a situation in which the parent could make a choice in the form of an evaluative response to his child's performance. (2-3 of the responses were positive, 2-3 negative and one neutral.) Interview B tapped the parents' own achievement behaviors in four areas (intellectual, artistic, physical, and mechanical).
1964	Rau, Mlodnosky, & Anastasiow	Children who scored high on second grade reading and arithmetic tests and on PMA and WISC mental ability tests had mothers who set achievement standards for the child.	Stanford Parent Questionnaire
1967	Honzik	Parents of opposite sex's concern for academic achievement is positively related to test scores (longitudinal).	Interview about home situation when child was 21 months. Cluster of questions related to parental attitudes and concerns.

Maximization of Verbal Interaction

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1951	Milner	Within the child's (grade 1) family there are opportunities for verbal interaction, participation in mealtime conversation, and the child can talk to his parents.	Through an interview of the mother, the mother was asked: Q. Did you say anything to each other during breakfast? What? A. Yes - conversation and/or child talking. Q. Did anyone talk to (child) while he/she was eating his/her supper? A. Yes - child participating.
1963	Bing	High verbal children (grade 5) have mothers who provide early verbal stimulation, and the child participated more in mealtime conversation.	Through an interview and questionnaire responses. Verbal stimulation includes amount of playtime mother had with child, taking child on outings, early reading to child, and tutoring child before school.
1963 1964	Dave Wolf	A child's IQ and educational achievement are positively related with the opportunities the family provide for enlarging the child's vocabulary.	
1968	Slaughter	The extent of "open communication" between mother and child (high school age) is related to the child's academic achievement and his autonomy in the school setting.	

Engagement with and Attentiveness to Child

1959	Rosen & D'Andrade	Parents of high achievers (boys 9-11 years) show more involvement and are more interested in and concerned with their son's performance.	Rating of parental behavior while son was performing a series of five laboratory tasks. Interest and concern was indicated by the parents' use of specific and non-specific directions. Specific directions included giving detailed information about how to do a task. Nonspecific directions included giving hints, clues and general suggestions.
1962	Witkin, et al	Maternal characteristics which facilitate psychological differentiation in 10-year-olds includes high involvement with the child.	As judged by the mother's responses related to her knowledge about the child's past and current adaptation to school, her sensitivity to the child's social relationships and activities, and her attitudes toward the child. "How do you feel about (child's) school progress, compared with his abilities and your hopes and expectations?"
1962	Mannino	Mothers of high school students in school (compared to drop-outs) showed more interest in child's school progress, gave more encouragement, and consulted teachers more often.	Interview of mother in home. Questions probed opinions and educational and occupational expectations of parents.

Engagement with and Attentiveness to Child (continued)

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1963	Bing	Mothers of high verbal children (5th grade) are able to recall more of the child's early accomplishments. During performance on laboratory tasks mothers provide more assistance voluntarily in the form of focusing, prompting, encouragement and approval on both the verbal and nonverbal tasks and provide help sooner when the child requests help.	Interview and questionnaire response to open-ended questions exploring the mother's past relationship with her child. Observation of mother-child interaction when the child was involved in task performance.
1963 1964	Dave Wolf	A child's IQ and educational achievement (5th grade) correlate positively with parental assistance in nonschool and school related activities and the amount of information the mother has about the child's intellectual development.	
1964	Bayley & Schaefer	In later years boys need a masculine model who achieves and is interested in and concerned with his son's achievement.	

Maternal Teaching Behavior

1967	Busse	A moderate amount of parental manipulation of materials was related to son's (about age 11) flexible thinking (curvilinear relationship). There was also a curvilinear relationship between a mother's use of command and pointing and a son's performance, a moderate amount was best.	Observation of parent-child interaction on a series of 4 lab tasks (Match Problems, Word Memorization, Unusual Uses, and Concept Sorting).
1967	Olim, Hess & Shipman	Children (4 years old) whose mothers employ personal-subjective and/or cognitive rational techniques in teaching her child a task score higher in IQ and on Sigel Conceptual Sort than do children whose mothers employ imperative-normative techniques. Mother's high language elaboration was asosociated with superior cognitive performance in the child.	Observation of mother teaching her child a block-sorting task.
1965-1969	Hess, Shipman	Mothers of children (4-7) with high achievement employ the following teaching strategies: She gives specific directions and feedback, She orients the child to the task, She works to elicit the child's cooperation, She gives praise, She accompanies requests for physical responses with verbal explanations. The mother's facile and complex use of language also affected the child's performance.	Observation of mother-child interaction when the mother taught her child a series of tasks which the child then performed for the experimenter.

Diffuse Intellectual Stimulation

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1945	Baldwin, Kalhorn & Breese	Families defined as Acceptant - Democratic - Indulgent provide intellectual stimulation and accelerate the child's intellectual development.	Fels Parent Behavior Rating
1951	Milner	High Scorers come from families where there are more books available and the child (grade 1) is read to more often by personally important adults.	Children were asked: Q. Do you have any books of your own? How many? A. Yes - several or a great many storybooks. Q. Who reads them to you? A. Mother and/or father.
1959	Rosen & D'Andrade	Parents of boys (ages 9-11) with high need achievement give the child more things to manipulate.	Observation rating of parent-child interaction on a series of five laboratory tasks.
1962	Witkin, et al.	Maternal characteristics which foster psychological differentiation in the 10-year-old child include the stimulation of curiosity and interests.	Rated in response to the following question asked to mothers: What activities have you restricted or encouraged? As well as questions related to the mother's general attitude toward the child.
1963	Bing	Mothers of high verbal children (5th grade) bought more storybooks for their children.	In response to interview and questionnaire items related to what was provided for the child.

1963 1964	Dave Wolf	Children's (grade 5) IQ and educational attainment correlates with the extent to which parents create learning situations in the home.

Warm Affective Relationship with Child

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1945	Baldwin, Kalhorn & Breese	Families described as Acceptant - Democratic - Indulgent provide their child with emotional support and the parents exhibit warmth.	Fels Parent Behavior Rating
1950	Stewart	Mothers of high achievers (8-12 years) were more rejecting than overprotective, lack warmth and positive feelings toward child while the mothers of low achievers are more indulgent, overprotective and/or capricious than they are rejecting.	Interview - Questions not provided.
1951	Milner	In the homes of high scorers (1st grade) there are more chances for positive interaction with adults, and parents express more affection in some overt manner.	Children were asked: Q. Does your mother do things that make you like her very much? A. She takes me places with her and/or reads to me. Mother asked: Q. Did you or anyone else hug, kiss or speak approvingly to (child) yesterday?
1959	Rosen & D'Andrade	Parents of boys (9-11 years) with high need achievement put out more affective acts.	Observation of parents as they interacted with their sons who performed a series of 5 lab tasks. Affective acts indicated by positive affective acts - expression of approval, giving love,

			comfort, affection and through positive tension release, jokes, laughs.
1962	Witkin, et al.	Maternal characteristics which facilitate psychological differentiation (10-year-old males) include warmth - when there is a reason and a purpose - and affection.	As judged by the mother's answer to questions related to the mother's attitude toward the child and the mother's behavior and feelings related to the physical care of the child.
1964	Bayley & Schaefer	Mothers who show affection have sons who score low on IQ tests during their 1st year of life, but make rapid gains during the 2nd and 3rd years. In early years sons need a warm, close relationship with their mother.	Fels Parent Behavior Rating
1967	Honzik	For girls, a close relationship with the mother is important when the child is young. A close relationship with the father becomes increasingly important as the girl gets older. A mother's close relationship with a son affects his verbal more than his performance score when the son is between 8 and 18.	Interview of the family relationship when the child was 21 months. A cluster of the interview included questions on the family's affectional relations, marital adjustment, close bonds, friendliness, and the expression of affection.
1967	Busse	Parental warmth and involvement relate positively to flexible thinking in boys (median age 11.3 years). For fathers, speaking more words and giving more verbal expressions of warmth were related to greater flexible thinking in sons.	Observation of parent-child interaction as they were involved in 4 laboratory tasks related to flexible thinking as defined in the Match Problem, Word Memorization, Unusual Uses Task, and Concept Sorting.

Feelings of High Regard for Child and Self

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1958	Winterbottom	Mothers of boys (ages 8 and 10) with high need achievement rated their sons more favorably in comparison with other boys.	
1959	Rosen & D'Andrade	Parents of boys (ages 9-11) with high need achievement have higher regard for their son's competence.	Observation of parent behavior while son was performing a series of 5 laboratory tasks. The parent gives explicit positive evaluation of son's performance, indicates job well done.
1962	Witkin, et al.	Maternal interaction which facilitates psychological differentiation in children (age 10) includes an accepting attitude.	Judged on the basis of mother's responses to questions related to their general attitude toward the child: What do you enjoy most about (child)? What are you most proud of in child? At what age have you enjoyed (child) most? And other qu[illegible] related to discipline and the child's social relations and school adaptation.
1962	Barwick & Arbuckle	High achieving boys (8th grade) perceived their fathers as more accepting of them than did low achieving boys who perceived their mothers as more accepting. Both father and mother acceptance as perceived	Porter Parental Acceptance Scale Whitesel's Situation Questionnaire for Child-Parent Relationships

		by girls related positively to achievement. Children's perception of acceptance was more significant in predicting performance than parent's statements of their acceptance of child.	Gilmore's Sentence Completion Test (Specific items were not included in the article.)
1964	Crandall, et al.	A mother's evaluation of satisfaction and dissatisfaction with the child's general intellectual competence is positively related to children's academic performance (grades 2-4).	Interview. Rated on the level of competence the parent felt his child characteristically demonstrated in intellectual activities.
1967	Busse	A father's strong feelings of powerlessness was negatively related to his son's (11 years) flexible thinking.	Feelings of powerlessness were evaluated on the basis of responses on the PARI interview schedule.
1968	Slaughter	The mother's degree of social isolation related to the high school child's achievement.	
1965-1969	Hess, Shipman	A mother's attention to the external world, out-of-home activities, her feelings of optimism about the future and her feelings of effectiveness relate to the achievement of her child (4-7 years).	

Pressure for Independence and Self-Reliance

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1945	Baldwin, Kalhorn & Breese	Families of high achievers were rated as Acceptant - Democratic - Indulgent. In these families the child has freedom.	Fels Parent Behavior Rating
1958	Winterbottom	Need achievement in children (ages 8 and 10) is associated with maternal positive demands for independence. At age 8 mothers have restrictions on their sons. At age 10 they have less restrictions and expect more independence.	Winterbottom Independence Training Inventory. Parents presented with 21 goals which they were asked to (1) indicate which were the most important in the training of their child, and (2) at what age did they expect the child to master the tasks.
1959	Rosen & D'Andrade	Mothers who foster high need achievement (boys 9-11 years) expect less self-reliance, and are more dominant.	Observation of parent-child interaction while child performed 5 laboratory tasks. Maternal expectation of less self-reliance was indicated by her greater use of specific directions which would facilitate task completion rather than nonspecific directions designed to guide the child but not make him rely on the directions.
1960	Crandall, Preston & Rabson	High achieving children (3-5 years) are less dependent on adults for help and emotional support.	Observation of mother-child interaction in the home and of child in relation to other adults in the nursery school.

			Children were rated on (a) achievement efforts exhibited, (b) amount of help-seeking from adults, (c) amount of emotional support-seeking from adults, and (d) amount of approval-seeking from adults.
1961	Chance	Children (age 6) with high achievement in arithmetic and reading had mothers who were "late" in independence demands.	Mothers indicated at what age they expected their children to perform 28 different tasks. Mothers were then rated as "early" or "late" in their expectations for independence in relation to the median age estimate for all mothers.
1962	Witkin, et al.	Maternal characteristics which facilitate differentiation in children (10 years) include fostering independence (defined as encouragement of separation), encouragement of "age-adequate" responsibilities and activities.	"Maternal control in the direction of child's achieving mature goals or becoming responsible." As judged by the mother's response to questions related to her attitude toward the child, physical care of the child and the child's social relationship and activities. For example: "When did you first let (child) play alone outside?"

Pressure for Independence and Self-Reliance (continued)

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
1964	Bayley & Schaefer	Mothers who are egalitarian toward their sons and grant them autonomy have sons who are below average in IQ during the first year of life but make rapid gains during the second and third years.	Fels Parent Behavior Rating
1964	Shaw	Parents of high achievers (10th-11th grade) chose more clearly defined goals indicating more clearly defined demands; they are concerned that their child develop the ability to make his own decisions, they expect the child to be more adult in behavior at an earlier age, they expect early mastery of self-care tasks by the child, and they stress the child's responsibility to the parent.	Winterbottom Independence Training Inventory. Parents presented with 21 goals which they were asked to (1) indicate which were the most important in the training of their child, and (2) at what age did they expect the child to master the tasks.
1964	Rau, Mlodnosky & Anastasiow	High scorers had parents who made positive demands for the child's self-sufficiency and mothers who rewarded independence.	Stanford Parent Questionnaire
1967	Busse	Parental willingness to allow independent performance of a task correlated with son's (median age 11.3) performance on flexible thinking.	Observation of parent-child interaction on 4 laboratory tasks (Match Problem, Word Memorization, Unusual Uses, and Concept Sorting).
		Father's indication of flexible, sympathetic standards, related to son's flexible thinking.	Judged by father's responses to PARI items.

Clarity and Severity of Disciplinary Rules

1951	Milner	High achievers (grade 1) are subjected to controlling, preventing, and prohibiting techniques of discipline while low scorers are more liberally treated. Part of the parental role is to control and limit the child.	Children asked: Q. What makes you mad when you're at home sometimes? A. When my parents won't let me have or do what I want to have or do. Q. What things does your daddy (mother) do that make you cry or feel real bad? A. He/she won't do or give me things I want him/her to do or to give me, and he/she makes me do things I don't want to do, or won't let me do things I want to do.
1957	Kent & Davis	Children (8, 9, and 12 years old) whose parents are characterized as having demanding discipline scored higher on Binet tests.	Obtained through interview.
1957	Drews & Teahan	Mothers of high achievers were more authoritarian and restrictive. "The high achiever is a child who has a rigidly defined place within the home which he is expected to keep with docile acceptance."	Mothers were higher on the Ignoring and Dominating Scale on the Shoben Parent Attitude Survey. Some examples of the items on the scales were as follows: Ignoring - Parents are generally too busy to answer all of a child's questions. Children should be allowed to manage their affairs with little supervision from adults.

Clarity and Severity of Disciplinary Rules (continued)

DATE	INVESTIGATOR	PARENTAL CHARACTERISTICS WITH SIGNIFICANT ASSOCIATION WITH COGNITIVE DEVELOPMENT IN CHILDREN	PARENTAL CHARACTERISTICS MEASURED BY:
			Children should not interrupt adult conversation. Dominating - A child should always believe what his parents tell him. A child should have strict discipline in order to develop a fine, strong character. Children should be allowed to make only minor decisions for themselves.
1958	Winterbottom	High need achievement is associated with more restrictions placed on sons when they are 8, but when they are 10, the mothers had less restrictive demands.	
1962	Gill & Spilka	Domination by the mother positively affects high school girls and negatively affects high school boys from Mexican/American families. Underachieving boys and achieving girls come from homes in which mothers are more dominating than the mothers of achieving boys and underachieving girls.	Shoben's Parent Attitude Survey as used by Drews and Teahan (1957).
1963	Bing	Mothers of high verbal achievers (5th grade) were more restrictive and characterized as "demanding, somewhat intrusive mothers."	Interview and questionnaire response based on questions related to maternal restrictiveness.

Use of Conceptual Rather than Arbitrary Regulatory Strategies

1963	Kagan & Freeman	Maternal justification of discipline correlates positively with IQ (ages 3-1/5, 5-1/5, and 9 years). IQ negatively correlated with restrictiveness (ages 2-4) and coerciveness.	Fels Parent Behavior Rating. Observation of mother when child was young (ages 2-7).
1964	Rau, Mlodnosky & Anastasiow	Parents of 2nd grade high reading achievers had parents who use reasoning with the child, set up contingency rewards and are restrictive. The parents are also democratic.	Stanford Parent Questionnaire
1965-1969	Hess, Shipman	Mothers of children (4-7 years) with high achievement use personal-subjective and/or cognitive rational control strategies rather than imperative/normative techniques.	Interview: What would you tell your child to prepare him for his first day of school? (The exact question needs to be given here.)

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7

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DEVELOPING PARENT POWER

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I see my task as commenting on the preceeding paper and expanding some of the ideas further.

First, I would like to look at the list of parental behaviors or factors that influence the child's development in another way. Factors influencing both cognitive and emotional development of children can be included in the three main categories presented in Table 1: demographic factors, parental-cognitive factors, and parental-emotional factors.

Six demographic factors which affect children's growth have been isolated by a variety of people. The first is degree of crowding in the home. The second is ethnic membership in a group; third is the presence or absence of the father; fourth is the quality of housing, fifth is level of income; and sixth is social class. While it is clear that social class has to do with development, the problem is to discover what this means in terms of linkages and of the specific mediating variables.

The second set are items referred to as parental cognitive factors--most of these are maternal. They were derived from interview schedules, surveys and self-reports; seldom has observation been utilized. Some of these, including the variable listed by Freeberg and Payne, (1967), are obtained by asking middle-class parents, "What do you think makes the difference in the intellectual development of children?" Some of them come out of the work done by Dr. Bloom's students at Chicago, especially the Wolf (1963) technique now being used at the University of Arizona Follow Through project and which we are also using which seems to be an interesting way to examine a number of cognitive variables.

The first of these variables is academic guidance by parents. The amount of academic guidance a family gives to a child seems to make a difference. The problem here, of course, is that the rich get richer. Dr. Hess remarked that it may be feasible to teach parents to work with children in kindergarten, first and second grade level, but that parents who have not completed fourth grade cannot so easily be prepared to provide academic tutoring to the child who is in eighth grade? Many lower-class parents have high aspirations for their children and want them to go on to college, but do not have a clear idea of what is involved in this kind of decision making or how to provide substance to back up the expectation.

Second (and certainly here is an area where Dr. Hess and Dr. Shipman themselves have contributed notably) is the cognitive operational level and style of the mother.

The third is the number and type of cultural activities planned. The relevance of this variable shows up in Deutsch's deprivation index in New York City and in comparisons between Pueblo, Navajo, and the Spanish speaking Americans in New Mexico on Garber's modification of the Wolf scale (1964). The way this is managed is important too. What activities do families do together? Do they do it impulsively or do they say, "This Saturday we will go to the zoo?"

Fourth in this list, and the one that I am most concerned with, is the direct instruction of the child. Do the parents see themselves as teachers of the child? Now all parents are teachers of children, but do they teach school relevant tasks consciously and do they set out deliberately to engage in direct instruction of the child? I have been intrigued by the work that Smilansky reports from Israel on the very interesting study of pre-school children's ability to engage in socio-dramatic play (Smilansky, 1968).

This ability relates clearly to whether the Jewish mothers behave like European Jewish mothers; who see themselves as instructors of their children; the Jewish mothers who come from Arab lands do not necessarily have this image of their role. Smilansky reports that there is no difference in the affectional climate in these homes. Both sets of parents love their children and demonstrate this in a variety of ways. The difference appears in the ways they communicate in their teaching activities. One example might be how a child learns to tie his shoes. In the "Jewish mother" fashion, when the child does not know, mama says, "Climb on my lap, and I'll teach you how to do it. You take your shoe laces and you go like this," and she goes through the process, very much in the programed instruction, small steps fashion, with a good deal of positive reinforcement, and warmth, accompanying the act. The other mother, in effect, says, "Tie your shoes," or "Get your shoes tied before you go to school." That is the extent of instruction and the shoes may or may not get tied. It is the child's problem to figure out how. This leaves a great deal up to the child but it is really not independence training. It is lack of anything positive at all. Direction instruction seems an important area. This parallels in some ways Hess's findings about the variations in teaching styles by lower-class Chicago mothers.

The _fifth_ is educational aspirations. How far do the parents expect the child to go in school? How well do they expect him to do in school? Aspirations relate to both grade level and achievement.

The _sixth_ variable is the mother's use of available resources. This also parallels one of the items Dr. Hess examined in his four groups in Chicago. Do they take advantage of nursery school, kindergarten and Head Start? Having a resource available does not necessarily mean that it will be utilized. An important question to ask is, how well does a family seek out and use community resources even when they exist?

The intellectual climate of the home is the _seventh_ cluster. Are there books present? The presence of books and magazines correlates positively with reading achievement, for example.

Verbal facility is the _eighth_ factor. The work of Bernstein and that of Hess and Shipman point this out as a rather important variable.

And last of these cognitive factors is verbal frequency. Deutsch and a number of other people have described this behavior. Bing (1963) examined it in relation to sex differences. John and Goldstein (1964) comment on it as a feature of table conversation for example. Perhaps sitting together for dinner is more important than the conversation, but nevertheless the opportunities for verbal interchange and the amount of language in the home relate to the child's language development.

The last set of variables are parents' emotional factors. The first item is consistency of behavioral management. How consistent is the individual who deals with the child? Is the child able to predict order and sequence or, to use one of Dr. Hess's terms, are the contingencies absent? How much are the parents involved in providing consistent management and a stable climate?

Along with this is the second variable, the differentiation of self of the mother. Pavenstedt's description of the mother in disorganized homes in South Boston, Dr. Hess's descriptions of the mothers in his study illustrate the inability of the mother to put herself in the child's place and realize what kind of direction he needs. To this mother, the child is simply an extension of herself, she cannot understand when her feelings and his feelings can be looked at differently. Both Pavenstedt and Hess seem to be describing a mother who is at a Piagetian pre-operational stage of development; she is still at the egocentric stage.

In terms of cognitive differentiation, she cannot understand that life looks different from where someone else sits. If the parent in effect is a 4-year-old child, how can the cognitive development of a child left in such a home without other kinds of intervention move very much beyond where the mother is? I think this also raises interesting questions when we talk about involving parents in decision-making. How can a parent functioning as above be involved? How can she be helped to contribute? What can she contribute?

Third, in describing disciplinary pattern, reference is made to conflicts between various people. In the homes in which we are working we have grandmothers, older siblings, fathers, uncles, and miscellaneous assorted neighbors who play critical roles. It is one thing to grow up in a culture which provides multiple mothering; it is another thing to have that multiple mothering have some kind of unanimity or agreement about it. The problem here would be: are the people giving the child the same or conflicting messages? Related to this is the question, what do you do to the father's role image when you involve him in being the teacher of a pre-schooler? We discovered that in some of our homes the mother was willing to go along with what we are attempting to do, but the father thought it was nonsense. The child got the double message. The father can play that role in many ways. If either parent does, we are no longer welcome in that home. Sometimes we intrude, especially those of us who are psychologists, without the advantage of anthropological knowledge and try to manipulate or change cultural elements without knowing what we are doing. We may intrude in this area of discipline and create conflicts between the various family members as to how a boy should look, what should be expected of him and what role he should be playing.

The fourth variable is the emotional security and self-esteem of the mother. This relates to Dr. Hess's point of whether the mother has a high regard for herself. If she doesn't, how can she create a child who will have high self-esteem?

The other variables are impulsivity, belief in internal vs. external control, which relates to the power-powerless dimension which Dr. Hess mentioned; protectiveness of the child, attitude of trust toward the society, to devote time to the child, and whether parental work habits provide some sort of order, sequence and stability in the child's life. All of these seem to be related to both the intellectual and personality development of the child.

The bulk of studies have focused on the category of parental cognitive factors. University research projects, such as ours, have not done anything with the demographic factors except to try to draw on samples so that they represent these elements. Intervention to manipulate these factors, to change housing, to change income, to change the sense of power, to do any of these, has been largely ignored in university projects and by large school system programs. Worse than that, researchers and appliers have recognized the existence of these factors and have chosen, implicitly or explicitly not to deal with them.

Let us now look at Hess' models and see what implications they have for parental involvement. There seem to be four levels at which we have presently involved parents in compensatory education. These will relate very closely to the models that Dr. Hess has sketched for us. The first level is classical welfare. This is the level where we see ourselves as missionaries; parents should either be an audience getting a message and listening to the word, or they should be bystanders and observers of what it is we are doing in school. The tradition of open school week in ancient and honorable. The parent comes to school, sits in the back of the room and sees how well we do with her child. At the day care center or at the nursery she can observe what the wise professional teacher does. In this fashion, she is to learn what to do better at home, and to understand what it is the school is trying to teach her child. The basic assumption is that the parent is a learner, and the agency representative (teacher, public health nurse, home demonstration agent, for example) is the teacher. It establishes or perpetuates a client relationship.

The second level seeks to involve the parent as a direct and active teacher of her own child. We need to raise such questions as: What is it we will ask her to teach? Who decides what ought to be taught? What is the right curriculum for teaching one's own child? What suggestions and changes will we try to make in what the parent is already doing?

From Table 1 we can learn a number of things. For example, we can suggest that it is a good idea to talk to your children; we do not necessarily want to control the content of what is said. But even this may violate somebody's culture. We have fathers who say, "Why should my wife talk to the baby before he is a year old? He can't talk back. There is no point to it." From the psychologist's point of view, the development of receptive language is the first step on the path. The problem is how to communicate this so that it makes any sense to somebody who does not see any immediate pay-offs from talking to the child. We ask mothers to orally label objects in the home. We ask them to point to body parts and say "this is your nose" and "these are your eyes." This may make little sense and so it is difficult for them to implement. The assumption in this type of parent education is that we (the experts) are going to help you (the parents) to change the way you are dealing with your children. We are going to make you a little more effective and teach you some techniques. We are the wise ones, and you are the ones who need this kind of orientation. This may very well be a valid assumption for some, but not for all of the so-called "disadvantaged" mothers. Our work indicates that many mothers who do not know how to interact with their babies in ways which may stimulate intellectual and language development wish to learn to do so. Indeed, we find many middle-class mothers who feel the same lack.

At the third level, parents are involved and actively enrolled in the school as aides or volunteers. As in the above categories, the major thrust at the third level is to change the parent rather than to change the school. This is illustrated by looking at parental roles within these three levels of involvement. At the first level the parental role is one of audience-bystander-observer, at the second he is the teacher of his own child, and at the third he is a volunteer or trained teacher-aide. These roles all imply that we are seeking to change the value system and behavior of the parent. Is parental participation patronizing or is it designed to provide support and skills for goals that the family already has but does not know how to achieve? Currently it is more of the former than the latter. Most of the research that has been done indicates that parents and professionals differ markedly in their attitudes about family life and children. How much interference are we engaged in when we adopt the first three levels of intervention as described here?

There is a fourth level emerging very rapidly, and this is the concept that it is the right of the parent to control the agency. Here reference is made to the school system; parental control already exists to some degree in Head Start. In a county with 90,000 people with an elective school board, eligible voters who go to the polls realize that if they take the trouble, they do have parent power. They control the school board. When these same people read in the newspaper or see on television that a group of parents in a neighborhood in New York City wish to do the same, they are horrified, and yet there may be 200,000 people in that neighborhood. They do not see that all the people in the neighborhood are asking for is the same right that rural people traditionally have had in this country, to control their own schools and their own school board. The fourth level is based on the notion that the parent is no longer simply a recipient of information or aid, no longer a receiver, but now should be in a partnership role; a relationship based upon a completely different assumption about the nature of the problem. The shift is from the family being the problem to the institution, in this case the school, being the problem. This leads us into Dr. Hess' models of deprivation.

The first of Dr. Hess' models is his Malnutrition model, the first part of which is Economically Starved. If one sees that the problem is economic starvation, then the agency responsible for such starvation is "the society at large." What is it that society then needs to do? The corrective activity is the provision of jobs. The locus of control in the provision of jobs is left, however, with the agency: the Job Corps, private enterprise, the junior college. Some sort of person other than the job seeker himself controls at least the training elements of the cure. What do we do for parents if we see this as being the problem? We develop job training and job placement activities.

The assumption somehow is that when the parent has a job something in the home will change that will positively affect the intellectual and personal development of the child. The mechanisms and the linkages are not well known. Mr. Moynihan, for example, who takes this kind of position, is dealing somewhat in mythology. Those who hold this view assume that there are intervening variables connecting job holding to child development. They make a rather simplistic assumption that the solution to the problem is simply to provide jobs. I am not opposed to people getting jobs, but I think that this does not automatically take care of whatever it is that is worrying us. As a matter of fact, there's some evidence that some of the people most involved in the riots were people who had jobs. Nobody has fully examined the nature of those jobs, how dead-end they were and where they fit into the technological hierarchy. I would identify Mr. Moynihan and the economist, Dr. Friedman, with this economic dependence model.

The second Malnutrition model is that the child lacks exposure; he has not had certain kinds of experiences. The fault lies with his family, which has not exposed him to things. The solution lies in such activities as field trips and cultural enrichment programs. Let us get all the children down to see the New York Philharmonic; this will solve the problem. The locus of control is mixed--the agency takes some responsibility and expects the family to take some responsibility. Basically the assumption here is that parental involvement means the receipt of advice: you ought to take your child to the library; you ought to take your child to the museum; you ought to let him see Bernstein on TV. We will take you along with us to teach you how to do it. The asusmption here is that the role of the parent is as a volunteer or aide in the system. A good deal of what has been done in Head Start, Title I, and in many of the Follow Through programs derive from this "lack of exposure" model. It relates to parent involvement at the first level described above.

I have combined the next two items into one. They are (1) the lack of pattern in family life, and (2) the absence of contingencies. The disorderliness that I mentioned earlier applies here.

The assumption of the intervenor like myself is that the responsible agency is the family; the family is not providing a pattern. There is an absence of contingencies in the family. But there are two quite different implications we can draw from this particular model. One is that the family cannot do it; this implies that we should get the child away from the family. This is done as early as infancy, in programs from the viewpoint of Hal Robinson and Bettye Caldwell. This is the model in pre-school and the Follow Through programs organized by such as Deutsch who did not work with families, Bereiter and Englemann who bypass the family, Sigel who works directly with the children. I do not mean that these investigators view life alike, but they certainly view it enough alike in that they do not deal with the parents. Their assumption, we might infer, is that they believe they know what the children need and how to give it to them, and that it is better to do it directly with the children.

A second quite different view is that the job is to strengthen the family, to enable the family to provide pattern and contengencies for itself. This is the basis for the Level II parent education models which train the mother to teach her child. This model still places the locus of control on "experts" for determining what should be taught, but it recognizes that the family as an agency should not be bypassed, but needs to be strengthened. People involved in this are Susan Gray at Peabody, our work at the University of Florida, Bushell at Kansas University, Weikart in the Ypsilanti public schools, and Karnes at the University of Illinois. These two divergent views are taken from the same observed family characteristics.

All of these interventions are assuming, in varying degrees, that what needs to be done with the parents and the children is to change behavior and value systems. The malnutrition model implies that children have not had enough middle-class-type vitamins.

Hess' Cultural Disparity model offers quite different implications. Cultural pluralism offers two alternatives. We can either see the goal as fostering cultural pluralism or as dealing with the difficulties that may appear because of cultural pluralism. If society adopts the latter view, one corrective activity is, "Well, if these children do not speak like everybody else speaks, the thing to do is teach them English as a second language." From this position, cultural pluralism decreases the child's ability to learn in school. The locus of remedial control resides in the school. The parents are bypassed in this operation. Nobody cares whether they do or do not want it. Nobody checks with them at all. We have a number of Title I and Title III NDEA programs, remedial reading programs and remedial English programs that derive from this interpretation of the meaning of cultural pluralism.

The other way of looking at cultural pluralism is to focus on "identity" behavior. The goal is to accentuate, capitalize on, and be proud of the pluralism, using it to enrich the culture by letting all cultural strands be themselves. The contemporary efforts in the area of Afro-American studies are good examples of ways to enhance cultural pluralism.

Perhaps an analogy to these two positions is an emphasis on individual differences. Educators have talked about individual differences of children for a long time. Most teachers have said, "Yes, every child is different, so how do we organize the schools so I can get all the children who are alike to be in the same place?" From this view, individual difference is a curse that must be overcome. But some of us say that individual differences make life worth living. In many cases we would want to enhance whatever the differences are. We can take the view that cultural pluralism, like individual differences, is a curse, and cling to the myth that America is a melting pot. Or, we can regard cultural pluralism as a blessing, and capitalize on it. Those who are working with parents as a group, offering direct instruction in values that are inherent to the people themselves, are taking this approach. We can take cultural disparity and develop two completely different sets of implications from it.

The next classification within the cultural disparity model refers to the middle-class school. Here the fault is seen as the school itself, the corrective action is to change the school, the locus of control lies within the community, parental involvement is to exercise power over the shcool. An example of this, of course, is the recent confrontation in New York City. But the best example for Head Start is the Mississippi Child Development group which was a clear utilization of parent power in handling and running one's own program.

The third main model is the Social Structure itself. Hess defines this as: there is a lack of resources, there is not enough money to go around, those who have the power get it. There is a lack of alternatives for the poor, and there is discrimination against people because either they are poor or they are black or they are Mexican. Here again the causative agency for the problem is the social structure itself. That creates a very difficult problem, because the corrective action is for the establishment to change itself. This is not easy. Speaking as a professor, it took me twenty years to because a full professor and to develop and run my own show, and I'm not inclined to turn it over to someone else tomorrow morning. Can you really expect an establishment to disestablish itself? The critical and crucial issue in the area of social structure is whether you can see the American system as open or rigid. Therefore, the locus of control is the locus of conflict, and it will stay in conflict for a considerable period of time. I think we cannot be very sanguine about it. There are people who will say, "Yes, there is a lack of resources, so we will give you a little bit; yes, there is a lack of alternatives, so we will increase them a little bit; yes, there is discrimination, so we will try to legislate against it, but otherwise do not mess up our system, leave it alone, it is the the best of all possible worlds. We will give you whatever kind of hand-outs we can work out within the system, but we are not about to really make any major changes." There are those who respond, "That is not good enough, the whole thing has got to go." Most of us are somewhere inbetween these two closed approaches. We have seen the system change, although we recognize it is a painful and sometimes slow process. I see the problem as learning how to change while preserving certain stability.

In the area of parental involvement, there must be some way to help parents learn social skills and social roles, and a way to see if this has an effect on the child. The assumption that some people make is that if the parent is able to demonstrate that he has power and influence, his child in turn will have a little higher self-esteem, feel a little more comfortable, a little more adequate, a little more able to deal with the system. To some degree, this is based on the same faith as our first model, that jobs will affect the child. Parental involvement becomes a way for parents to learn social rules and social skills so that they can modify the system. But, as I pointed out earlier, if the mother is functioning at a pre-operational level, how can she participate? The questions are: Who is going to teach the parents? Whose social rules should be learned? Which social skills? That is where the conflict comes in. The two identifiers listed in Table 2 are black power on the one hand and legislation on the other.

What I have attempted so far is to take Hess' various models and sketch out the problems and the implications. It would be naive to offer opinions as to which implications are best, particularly when some of them are not known at this point. We have seen where conflicting implications can be developed from the same model. It is obvious that, as Dr. Hess indicated, this evaluation as to what ought to be done depends to some degree on philosophical assumptions. I think all implications should be tested. Social forces themselves are dictating, through political and other means, which models will be funded, which also determines which models will be tested. Part of the problem is that these models rest upon uncertain grounds, not only politically, but scientifically and empirically.

There is a tendency by model builders (and I do not include Dr. Hess) to over-generalize and over-simplify the nature of the group they are speaking about. All schools are not alike, all people of any ethnic group are not alike, all people in any social class are not alike. Models often overlook this very simple fact of life. I do not, for example, subscribe to the notion of the culture of poverty. I believe it to be an over-simplification, ignoring regional and ethnic differences. It is easy to assume, combining two variables like black and poor, or Appalachian and white, into a single category, poor and black, Appalachian and white, that you are closer to the target. However, we have some data from our Parent Education Project I would like to share with you about mother's self-esteem that challenges this notion. This is an extremely tough variable to measure. Coleman, in his study of Equality of Educational Opportunity, rested his discussion about the self-concept of children on three questions. No matter if you sample as many as 46,000 children, three questions are not adequate. We did a little better, we used 40 questions, but did not have 46,000 subject! We developed a mother's form of our self-report scale, called "How I See Myself" (Gordon, 1968). Information is now available on a number of mothers whose children were delivered at the Health Center Hospital beginning in September 1966. Our ratio of project mothers corresponds to the population ratio of 80% black and 20% white. One factor on the scale is labeled autonomy. It consists of such items as "I like to do things by myself," "It's easy for me to organize my time," as well as items that deal with art, music, and handiwork. It seems to measure self-sufficiency in some sense. Our black mothers score significantly higher on this particular factor than do our white mothers. There are no race differences in their attitudes toward teachers and the school, general feelings about interpersonal adequacy, nor in their feelings about their own personal appearance.

We have a Follow Through Project in six communities in various parts of the United States: Yakima, Washington; Lac du Flambeau, Wisconsin; Philadelphia, Pennsylvania; Richmond, Virginia; Jacksonville, Florida; and Jonesboro, Arkansas. In each of these places we employ parent educators from the "disadvantaged group." Most of them are black, a few are Indian, and some are white. The parent educators are more favorably disposed to teachers and school than our mothers. They have sought jobs and are employed by the school. Even more interesting is that these Follow Through parent educators see themselves much more favorably than do our white mothers in Gainesville on autonomy, on physical appearance, as well as on the teacher-school factor; people who are employed in projects of parent education have a different view of themselves than people who are recipients of the education. Obviously, no cause-effect statement can be made. We also have scores on high school and junior college students. The black high school youngsters in the Alachua County area see themselves more favorably on the physical appearance factor--I like the way I look, I like my skin, my height, my weight, my body build, I like my hair, etc.--and on autonomy than their white counterparts do. The assumption that all blacks have a low self-concept does not hold up, at least if our scales have validity. Our mothers of both races see themselves as less physically attractive than any of the student groups.

On our measure of internal-external control, we get a different picture. We modified Rotter's scale of internal-external control to be useful down to 4th grade vocabulary level. We find that our white mothers feel that they have more internal control. That means they think they have more power over what happens to them than do our black mothers. This seems to relate to the relevance of social structure.

It is not simply an internal psychological variable, it is a fact of life. They do have more control. When I go through the grocery check-out counter, I can be dressed in disreputable clothes but the checker says "Good morning," takes my money, and thanks me for shopping at the store. The man in back of me can be dressed impeccably, but if he is black there is no good morning and no thank you. This is the social structure. What we get on the I-E scale is the reflection of reality feelings. It is a result of what has happened to them.

I would infer, therefore, that parent involvement programs in addition to working directly on the mother's self-esteem, should influence the social structure so that we get different feelings of self-worth. Both the mother's feelings and the social organization need to be seen as parts of the total behavioral system, each influencing the other.

We get quite clear sex differences in performance of the infants in our studies. We begin working with infants when they are three months of age and measure them at 12 months and again at 24 months. The main difference between experimental and control babies is found in the superiority of the experimental girls which account for differences in favor of the total experimental group. There is one very interesting aspect; the control boys exceed the experimental boys on the locomotor subscale of the Griffiths, which is the standard test we use at 12 months. We are not clear as to why this occurs. Wo do not know how much this sex difference is a function of biology, parent behavior, parent educator behavior, or our stimulation materials.

Let me shift to some general statements about research. Parent involvement projects raise serious research problems. There is usually a good deal of tension between service and research. How does one handle experimental design so that it is clear to parents which elements of a project are subject to change and which are not, when maybe those not modifiable are ones the parents most want to change? This is the problem faced by the Follow Through models. How can a model be kept "clean" if it is opened up to change by parents? The tough questions are: Who designs the program? Who controls the program? How do you reach the unreachable people? How do you change the parents and change the institution at one and the same time? How do you learn how to do research on a program while the changes are taking place?

It seems to me that we need to develop research on the process of change, rather than assuming that we know what the end result will be. The model of the physics laboratory experiment may not be the appropriate approach. We need to develop more research on the process of change. We need to examine the effect of Hess' models on the people who use them. We need to explore the effect, not only of the usual "Hawthorne" but also the one Dr. Hess pointed out, of expectancies. What chain of events do we start, and how do we live with it? How do we develop multivariate research with uncontrolled variables? How do we operationally define terms such as "Head Start" that cannot be operationally defined? If anybody thinks there is a common denominator called Head Start, they are probably wrong. Yet we talk about research on Head Start. I would suggest that every Head Start community has its own particular nuances and its own intervention model.

How do we move away from input-output kinds of research and deal with the middle--that is what is actually taking place between input and output? How do we learn how to use what has been called the second cybernetics, or automatic feedback systems that allow for change? If a program starts off with parent involvement at the audience level, but results in gains in parents' skills so that they seek to function at all levels, how do we learn how to adapt the model to accommodate that growth? We have learned from our own parent educators that this can be done. We need to be able to move parents from subjects to partners. Our parent educators were never really subjects in our research, but neither were they supervisors. Now we are trying to shift roles. In September 1966, the parent educator was supervised by graduate students. In January 1969, the parent educator in charge of a small home learning center supervises the graduate student. I suggest that we need to find more and more ways of developing this kind of change. Developing parent power requires that we deal with all elements of the problem: the family, culture disparity, and social structure, using our best intelligence to study what we do, and to study what happens as a result.

Table 1

Family Factors Associated with Intellectual and Personality Behavior and Development

Home Characteristic (Home Condition, Parental Behavior, Parental Belief or Personality)	Investigators Indicating This Characteristic as Criterial																											
	Bernstein	Bing	Bronfenbrenner	Coleman	Davis & Havighurst	Deutsch et al.	Dyk & Witkin	Freeberg & Payne	Gordon, Bradshaw & Freijo	Hess & Shipman	Honzik	John & Goldstein	Kagan & Moss	Katkovsky et al.	Lesser et al.	Lynn & Saw[illegible]y	Marans & L[illegible]ie	Mischel	Moynihan	Pavenstedt et al.	Rietz & Rietz	Roll	Sears et al.	Smilansky	Strodbeck	Whiting & Child	Wolf, Dave, Garber	Wortis et al.
Demographic Factors																												
1. Crowded Homes						X			X												X							X
2. Ethnicity				X	X				X						X			X	X									
3. Father Present			X			X					X					X		X	X									
4. Housing, Quality						X																						
5. Income											X																	X
6. Social Class	X			X	X	X			X	X		X	X		X		X	X					X					
Parental Cognitive Factors																												
7. Academic Guidance								X													X						X	
8. Cognitive Operational Level, Style							X		X	X										X								
9. Cultural Activities Planned						X		X																			X	
10. Direct Instruction of Child								X													X			X			X	
11. Educational Aspirations		X			X	X		X			X												X		X		X	
12. External Resources (Nursery, Kg.)						X		X													X							
13. Intellectuality of Home (Books, etc.)		X						X													X						X	
14. Verbal Facility	X	X			X			X		X		X					X				X						X	
15. Verbal Frequency (e.g., Dinner Con.)		X				X		X	X			X									X						X	
Parent Emotional Factors																												
16. Consistency of Management																	X				X	X						X
17. Differentiation of Self							X													X								
18. Disciplinary Pattern								X	X		X											X	X			X		
19. Emotional Security, Self-esteem							X		X								X			X								X
20. Impulsivity																				X								
21. Internal Control, Belief in				X					X																X			
22. Protectiveness, Babying of Child					X								X	X									X					
23. Trusting Attitude																				X								
24. Willingness to Devote Time to Child								X																				
25. Work Habits																					X						X	

Table 2

INTERVENTION IMPLICATIONS BASED ON HESS' DEPRIVATION MODELS

DEPRIVATION MODEL	AGENCY RESPONSIBLE	CORRECTIVE ACTIVITY	LOCUS OF CONTROL	PARENTAL INVOLVEMENT		IDENTIFIER
				TO AND FOR	BY FOR CHILD	
1. Malnutrition						
A. Economic Dependence	"Society"	Jobs	Agency	Job Training	Undefined	Moynihan Friedman
B. Lack of Exposure	Family	Field Trips Child Devel. Centers Special School Exposure "Enrichment"	Mixed Agency and Parent	Rec. of Advice	Volunteer, Aide	Head Start Title I Follow-Through
C. Lack of Pattern	Family	Schooling	Agency	By-passed or Observer	By-passed	Deutsch, Caldwell, Robinson, Bereiter and Engelmann, Sigel
	- - -	- - - -	- - -	- - -	- - -	- - -
D. Absence of Contingencies	Family	Parent Educator	Agency	Training in Teaching Child	Direct Instruction	Gray, Gordon, Bushell, Weikart, Karnes
2. Cultural Disparity						
A. Cultural Pluralism	"Society"	"Eng. as 2nd Lang."	Agency	By-passed	By-passed	Title 1, 3, NDEA Remedial Progs.
	- - -	- - - - -	- - -	- - -	- - -	- - -
		Identify Behavior Afro-Amer. Studies	Group	Self	Direct Instruction in Values	Karenga, Jones

B. Middle-class Schools	"Society"	Change Society	In Conflict	Teach Social Roles & Social Skills	Model	Black Power Civil Rights Legislation

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*1, A-D, to varying degrees, see middle class as model culture

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ON DEVELOPING DEVELOPMENTAL FAMILIES

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ON DEVELOPING DEVELOPMENTAL FAMILIES*

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Institute for Juvenile Research

Our problem can be stated very clearly: How can we help disadvantaged families to become autonomous developers of their own children?

It has become clear that for most disadvantaged children, one or two years of preschool experience is not sufficient to insure adequate academic achievement in the elementary grades (Hodges & Spickler, 1967; Weikert, 1966). Hence, we are moving toward strategies for changing the family milieu. The economy of this shift in emphasis seems apparent. A change in family life could affect a child not just during his preschool years, but from birth on through his entire school career. Furthermore, such a change could affect not just one child, but his older and younger siblings and those yet to be born.

It seems to me that Dr. Hess's paper has raised serious questions concerning the feasibility of such a plan. Perhaps the single most important function of his comments has been to suggest that the problems we thought we were dealing with are manifestations of much deeper problems, and the solutions we thought we were implementing are solutions to very little. I would agree with his endorsement of the proposition: "It is the structure of society which makes the lower-class family impotent as an agent of effective education." I would, in turn, suggest that the key to effective education within the family is to help the lower-class family restructure its environment and its relationship to the environment. I think it is clear that in order to bring about meaningful change, we are going to have to generate a host of new strategies, based on new insights and implemented on a massive scale. I am not in the position to offer earth-shaking syntheses, but I would like to put forth a few suggestions concerning what I consider to be minimal requirements for successful programs with disadvantaged families.

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* Paper presented at Head Start Research Seminar #5, Washington, D.C., January 13, 1969, in conjunction with papers by Robert D. Hess (Hess, 1969) and Ira Gordon (Gordon, 1969).

Most of my argument in this paper will rest on the following proposition: *Parents cannot construe the child's relationship to the world in ways that are fundamentally different from the way they construe their own relationship to the world. Hence, to change child-rearing practices effectively, one must change the parents' own experience in the world*.

The required changes in child-rearing would necessitate significant shifts in family cultures, particularly a shift from a family environment in which the chief concerns of child-rearing center on external control or avoidance of trouble, to one in which the internal experience of the child and the development of competence become pivotal family concerns.[1]

This being the task, it seems ludicrous to assume that significant change in parental behavior can occur without altering the parents' experience vis-a-vis the extra-familial world.

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[1] When we speak of changes in family culture, we are often confronted with the spectre of "middle-class" ethnocentrism and with widespread skepticism concerning "middle-class culture." I think it will be clear as this paper progresses that I am not suggesting a total remolding of a family's values. But at the same time, we have to deal with the historical hard core of our present situation; namely, that the whole world is becoming a large urban modern industrial society and that there are certain skills required to function adequately in such a technical order. I suggest, for the moment, that we throw out the concept of "middle-class" and try to ask what those skills are (see Alex Inkeles, 1966). I think we will find that there is only a partial overlap between these skill orientations and the contemporary forms of middle-class culture. In other words, I am suggesting that a shift to an emphasis on the development of competence need not result in empty cultural forms and human alienation; in fact, it has the obvious potential of resulting in just the opposite. At the same time, I would caution that it can have such negative consequences if man's inner life is neglected.

If parents are to foster competence in their children, then it would seem imperative that the parents experience competence-gaining activity in their own lives. If the parent does not really feel these things at a visceral level by having gained them through actual experience, then I would suggest that there is relatively little chance for substantial change.

The remainder of this paper develops this proposition and several other propositions which I feel are crucial to effective family programs. I would first like to review a study of 45 black families living in a lower-income black neighborhood on the West Side of Chicago (Scheinfeld, 1969).

The purpose of the study was to understand differences in family milieu which would account for the fact that the children of some families did well in school whereas those of others performed poorly. Academic records were available for two or more children in every family in the study. It was therefore possible to look at the achievement average of a whole sibling group rather than at the performance of just one child in the family.

The study focused on parents' conceptual frameworks underlying child-rearing. The interviewer began by asking the parent, "What have you found over the years to be the most important things about children and about raising children?" The parent was then asked to help the interviewer make a list of all the things he or she would like to see in a 10 year old boy, e.g., "independence," "don't fight," "mannerable," etc. Next came the attributes the parent would like to see in a 10 year old girl. Great pains were taken to probe the meaning of these statements. For example, "What do you mean when you say 'obedient'?" "What would a child who wasn't obedient be like?" Definitions of "obedience" radically differentiated the achieving families from the non-achieving ones.

The interviewer then went on to ask the parent what he or she felt was the best method to get the child to be one way or not to be another way, and why that was felt to be the best method. The parent's explanation of why one method was better than another began to reveal his or her concepts concerning the basic nature of children, as well as the basic function of the parental role.

The preliminary analysis of these interviews yielded the following results: Parents' aims for their children were analyzed in terms of "adaptive strategies." An adaptive strategy consists of an idea about a desirable or undesirable behavior; for example, "to be obedient," or "to stay out of gangs," along with an idea about the consequences, positive or negative, of that behavior. It is an "if... then" clause. One of the simplest ways that one can analyze an adaptive strategy of this sort is by the positive or negative signs. If both the behavior and its consequences are positive things, the family has much more likelihood of being an achieving family than if the behavior and/or consequences are negative. In other words, if a parent says, "A child should know how to read good because then he'll get interested in things" (positive-positive), he or she is more likely to have achieving children than the parent who says, "A child should know how to read good because then he'll stay out of trouble" (positive-negative), or "Don't hang out with bad boys because if you do you'll get into trouble" (negative-negative).

In general, when these adaptive strategies were placed on a continuum ranging from active engagement with the environment to avoidance of the environment, the more the parents' ideas clustered at the "active engagement" end, the more likely the children of that family were to be doing well in school. The closer the parents' ideas were to the "avoidance" end of the continuum, the more likely the children were to be doing very poorly in school.

The single best predictor of children's achievement was a dimension called competence-gaining activity, defined as "active engagement with the environment in which the child is effective and is gaining greater effectiveness." If a parent's child-rearing aims were scored heavily on this dimension, one could almost be certain that the children of that family were doing well in school. A low score on this dimension almost entirely precluded high achievement.

Parental theories concerning child-rearing methods and the nature of children also differentiated achieving and non-achieving families. The achieving parents had what could be called an exchange theory of child-rearing. The child was viewed somewhat as an input-output mechanism. In order to get the desired results from a child, these parents felt you had to be attentive and affectionate, and tend to many of the child's felt material needs. They believed that, if the child is neglected, the resultant negative feelings would propel him into the street culture and a whole syndrome of undesirable behavior. Hence, the parent-child relationship was perceived as the key competitor with the street world. These parents also tended to construe themselves as having enough knowledge to be able to instruct the child concerning adaptive and maladaptive behavior. They felt that they knew enough about life for the child to be able to benefit from the relationship with them.

In their own relationship to the environment, parents of achievers also tended to be different from those of non-achievers. These parents felt a relationship of connectedness and exchange with their environment. "I've got to have my connections; I've got to maintain connections with all sorts of people 'cause I'll need them; I'll need what help I can get from them or what I can find out from them." "If I stop and help someone with their car..., I know that's gonna come back to me. It won't be the same person, but it will come back." They also tended to have a greater sense of continuity with the past and with people from the past. This was related to their feeling that they had something valuable to pass on to their children.

I believe that this study supports the basic proposition in several ways. First, the adaptive strategies embodied in the parents' aims for their children reflect distinct orientations toward the environment and, indeed, parallel the parents' feelings concerning their own adaptation to the world. Second, an exchange theory about the parent-child relationship (in contrast to a dominance-fear theory) would seem quite clearly to reflect parental experiences of rewarding exchange with people outside of the family, past and present. Finally, the parent's confidence in his or her own ability to help the child interpret reality in an adaptive manner would seem to come from a good deal of successful adaptation in his or her own life.

I think that these data strongly suggest that a program which tries to deal with the parent-child relationship in isolation from the rest of the parental experience is likely to be severely limited in its effects.

I would now like to take a somewhat broader perspective and propose that a model for helping disadvantaged families to develop their children should meet at least seven criteria, only one of which is the above stated proposition. First, in order to be practical, the model should involve a method which can be carried out by a substantial number of change agents, not just a few specially gifted or highly trained workers. Second, the whole family should be involved in the change process. Third, change should be effected within the context of the parents' own system of values and beliefs. Fourth, the basic change process should involve concrete activities rather than lectures or discussions. Fifth, the program should provide extra-familial experience for the parent which parallels the kind of experience one wishes the parent to foster in the child. Sixth, there should be a spread-of-effect process built into the model so that the impact made upon one family can be systematically spread to other families with whom that family comes into contact. Seventh, the program should develop a system of community supports which will help sustain families in their growth over time. In other words, the program should create a developmental community. I would hypothesize that change in the culture of one family can only be as effective as the community support for that change.

This sounds like a tall order, but it can be done. In my opinion, the application of these seven principles constitutes the minimal formula for effective change. It can also be construed as a very positive step in the direction of the kinds of total structural changes referred to in Dr. Hess's paper.

In order to deal concretely with this seven-point model, I would like to turn to a family project carried out at the Martin Luther King Family Center in Chicago (Scheinfeld, Bowles, Tuck & Gold, 1969; Bowles, 1969; Tuck, 1969). An analysis of the strengths, weaknesses, and accidental discoveries of this project plays an important role in my overall argument.

The Martin Luther King Family Center (formerly the Henry Horner Preschool Center) serves a lower-income black housing project community on the West Side of Chicago. The project which I shall describe was carried out from October, 1967 to June, 1968. At that time, the children attending the nursery school were divided into three tracks: A, B, and C. The "C" track consisted of children who, on the basis of clinical observations, were judged to be the least integrated, the least able to relate to adults or peers, and the least able to integrate elements in the material world (Hirsch & Borowitz, 1968; Costello, 1969). In other words, they were the weaker egos. There were 15 such children in the school. The project started with the families of six of these children.

The project was carried out in three phases. In the first phase, a black female worker (Bowles) went to the home to interview the mother. On another occasion, a black male worker (Tuck) interviewed the father. The interview was similar to the one in the previously described family study. The worker explained that the nursery school wanted to cooperate closely with the parent in helping to develop the kind of child he or she wanted to have.

The worker elicited the parent's child-rearing aims and discussed them in some depth with the parent. This interview established rapport with the parent, communicated respect for the parent's own ideas, and provided valuable baseline data for evaluational purposes.

We then analyzed the interviews and picked out those elements in the parent's idea system which overlapped with the goals of the nursery school. We found that every parent had mentioned at least one aim which was essentially developmental. It might have been as narrow as, "I want him to know his address," but if a parent wants a child to learn his address, this requires learning about numbers.

In phase two, the two workers returned to the respective parents with developmental toys or games corresponding to one of the child-rearing aims which that parent had stated during the initial visit. These were simple, inexpensive things--blocks, puzzles, Lotto. The worker introduced the toy or game, playing it with the parent and with the child. Other possible uses of the toy were explored. This process went on, the worker returning with other toys relating to the original aims or with new toys relating to new child-rearing aims that emerged. For the most part, the worker encouraged the parent and child to work on the activity together, making helpful comments and giving positive reinforcement to both. Soon the other siblings came around, wanting to have something, too. So we began providing them with age-appropriate toys and games. What we were doing,in a sense, was turning on the whole family, and that, to me, is one of the major keys in creating a developmental community. If you really want to alter the family milieu, give activities to everyone. It is probably most efficient to start with one child and then build laterally on sibling rivalry.

After parents had mastered four or five games, they began to construe toys as learning instruments and to borrow toys from the nursery school library. At this point we were ready to begin the third phase. I might add here that by the end of this second phase, we discovered that while most of the fathers cooperated with the program, they almost all displayed a marked resistance toward accepting the new developmental role being suggested by the worker. The business of caring for young children was largely construed to be woman's work and was experienced ambivalently. Consequently, on the suggestion of several fathers, the male workers forged the fathers into a "concerned fathers" community action group which has carried out a number of corporate activities since that time (Tuck, 1969).

The third phase, entitled "Working through the Network," involved mainly mothers and built upon pre-existing networks of trust and relatedness in order to lay the foundations for a developmental community. In an area where mistrust of one's neighbors is a predominant attitude, it is imperative to begin with those relationships in which trust is already present. The worker encouraged each of the six mothers to interview close friends in the neighborhood who also had children of pre-school age. The mothers interviewed these friends informally, but in the same spirit as they had been interviewed five months earlier by the worker. "What are all of the things that you would like to see in a 4 year old boy (girl)?" "Can you tell me why you feel that it is important for a child to be ______?" and so on.

These friendships within the neighborhood were then utilized and strengthened in the following way: each of the six mothers was provided with an ample supply of toys to disperse to friends in response to the friends' stated aims for their children. This process continued in the same way as the initial worker-parent relationship had progressed. The mothers worked with their friends, encouraged them, and provided new toys or games on a continual basis. Some mothers were more successful than others in this new role, but all succeeded to some extent. In this manner, 22 additional families were brought into the program.

The evaluation of this project, which centered mainly on the six mothers, yielded some interesting evidence concerning my main argument. At the end of the project (roughly eight months after the first visit to the six families), the six mothers were re-interviewed in the same manner as they had been at the beginning of the project. A control group of six mothers of low-competence children was also interviewed at this time. The interviews were coded on six dimensions: emphasis on competence-gaining activity, reference to the internal life of the child, reference to the importance of a sense of competence, emphasis placed on assertiveness, emphasis on parental dominance of the child, and degree to which parental role was construed as a teaching role.

The interviews reflected considerable progress on the part of five of the six mothers, but two mothers in particular showed very marked changes and scored consistently higher than the others. These were also the two mothers rated by the worker as having made the greatest progress.

Two other observations concerning these two mothers are significant. On the posttest interview, they were the only mothers who clearly and strongly emphasized the importance of a sense of competence in the child. Mother #1, for example, responded, "Have self-confidence that you can do... He should believe in himself; he needs to feel that he can do in life." Mother #2 said, "Be able to say that you can do what you want to do. It's the first step in learning, that you can't do anything unless you feel as though you can really do it."

These mothers were also the only two out of the six who had directly participated in the nursery school program; one, as a salaried general helper around the school, and the other, as president of the parents' council.

In short, the two mothers who developed the most were also the ones who had grasped the meaning of a sense of competence and who had experienced competence-gaining activity in an extra-familial context.

One could plausibly hypothesize that the mother's intuitive grasp of the importance of a sense of competence is the pivotal element in a child-rearing syndrome which fosters the development of competence in children. If the mother is able to identify with the child as a competence-gaining person, one who gains pleasure from effectance and discomfort from helplessness, then she is likely to foster activities which enhance the child's growth and to refrain from treating the child in ways that destroy or retard his development.

In the context of an action program, the overall formula would be as follows: the mother engages in competence-gaining activity, gains a sense of competence, and generally feels good about herself. She is then able to project her good feelings about herself on to the child and is also able to empathize with the child's need for competence-gaining experience. Furthermore, having a better feeling about herself allows her to be more accepting of her own feelings, and hence more accepting of the child's feelings and more aware of the child's inner life generally. This process serves as the underpinning of major changes in child-rearing behavior (Bowles, 1969).

The question is whether a program which concentrates mainly on relationships within the family can generate the kind of process and change suggested by this formula. I think that our analysis of the two mothers in the project described above strongly suggests that, while it might be possible to achieve this change by working solely within the context of the family, one's chances of success are far greater if one also involves the parent in competence-gaining experiences vis-a-vis the wider world. In my opinion, the two mothers who experienced the outside growth in competence were the only two out of the six who could be called successful cases.

The strengths of the program I have described were several. It related to parental values, dealt with the whole family, worked through activities as well as words, gave a great deal of positive reinforcement to parent and child, and began to strengthen the community by building on parents' social networks.

But the program was deficient in at least two respects. First, while it began to lay the foundation for a developmental community, it did not actually develop one. A fourth phase had been planned to further this end, but it was not realized due to heavy rioting in the neighborhood during the spring of 1968. This fourth phase would have been called "Closing the Network." In this phase, the worker and mother would have collaborated to weld the mother's network into a group built on a new community of interests. This small group would have carried out activities and discussions relating to their children's development and also would have served as a mutual aid group, giving each other support in relation to the schools and other outside agencies. In time, these small groups, through the help of the worker, would have been joined, hypothetically, into a large community corporate entity carrying out a wide range of activities.

The second major deficiency of the program was the relative absence of competence-gaining activity for parents in the extra-familial environment. I would argue that such activity is crucial not only because it is a necessary condition for changes in the family environment, but also because effective activity is essential to the creation and maintenance of a corporate community which, in turn, supports competence development within the family. The question is, What kinds of extra-familial experiences are feasible and likely to promote changes in people?

I would say that effective exchange with the environment has at least three aspects to it: information-seeking, information-processing, and action. If parents are to be in touch with their environment, to learn to explore its potential, and to gain a sense of control, they must become information-seekers.

The parent who becomes an information-seeker is going to be more effective, and will feel more effective as a parent because he has something really significant to tell his children about the world. He is also going to encourage information-seeking in his children. Information-seeking can be verbal, visual, or both, but it is, above all, a state of mind. Information-seeking and processing can be carried out as a primary activity or as an integral part of other activities. For example, when involving parents in the nursery school, they should be trained to be observers, to ask about and think about the children, to become familiar with the methods and functioning of the school, and, finally, to put this information to use. I would suggest that there will be far more significant change in these parents than in those not encouraged to ask questions. Accounts of the Child Development Group of Mississippi (CDGM) bear witness to the kinds of development that can take place in both parents and children when parents are in a controlling position (Levin, 1967). I would hypothesize that the CDGM experience was highly beneficial not only because parents gained a sense of effectance, but because they began to appreciate the importance of asking the relevant questions about their situation.

Programs can be set up to help parents articulate the kinds of questions they really want to ask and to help them to go about answering these questions. They might be practical questions concerning the use of public services or questions dealing with the history of black people. They could be questions about what makes people behave the way they do or how the sound gets on the phonograph record. If one can get at those questions and successfully engage people in the process of learning about the things that truly interest them, then great changes are possible in the person's orientation toward his world and toward his children. The worker or instructor can serve as a model for question-posing and for information-seeking.

Posing questions about one's world and one's relationship to the world leads to action; setting up a cooperative laundry, launching a rent strike, organizing a precinct, making educational toys for children, exploring new places and new relationships. Action almost always leads to new question-posing. It all adds up to learning how to be effective in the environment. Parents who are learning and getting intrinsic rewards from it are going to produce learning children.

At the very most, the ideas contained in this paper can be regarded as plausible hypotheses that have to be tested. With this in mind, I would like to suggest a wide-scale experiment to be carried on within Head Start or a similar system. The variables in the experiment would be four in number:

1. Nursery school experience for preschoolers.
2. Work with the family in the family environment.
3. Work with parents toward greater effectance in the extra-familial environment.
4. Establishment of a developmental community through family networks.

Each of these taken individually, plus combinations of the four, would yield a total of 15 types of programs plus a control group without treatment. Both parents and children would be studied before, during, and after the experiment.

The thinking in this paper has proceeded from the proposition that basic structural change in the lives of disadvantaged families must take place before significant changes in child-rearing will occur. I would expand that proposition to say that, in order for structural change to take place and in order for child-rearing to change, the parents themselves must take part in generating the structural change. The parents must become actively and effectively engaged with the environment. When that truly happens, the need for ameliorative institutions will be terminated.

Head Start and similar agencies have come to realize that their aim of correcting the educational deficits of disadvantaged children cannot be realized without developments within the family which parallel the nursery school experience of the child. It has become reasonably apparent that at least as much effort will have to be spent in working with parents as in working with children. If I am correct in indicating what needs to be done in order to bring about significant family change, then Head Start will have to do some radical re-thinking, re-training, and shifting of resources. Let us hope that the vested interests of any particular professional group or any particular power interest do not obstruct the greatly needed shift toward a broader strategy.

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Seminar #6

THE TEACHER IN INTERVENTION PROGRAMS

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HEAD START CONFERENCE

INTRODUCTORY COMMENTS ON THE ROLE OF THE TEACHER IN INTERVENTION PROGRAMS

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During the past decade tremendous progress has been made in developing curriculum for all levels of education. No doubt this same trend will continue in the future. The significance of these trends is reflected in continued breakaway from traditional teaching areas and teaching strategies to modern, appropriate and relevant ones to the electronic age. These changes or recommendations for change are coming fast and furiously from many quarters, such as segments of professionals who ten years ago were uninvolved in educational efforts. Child psychologists, social scientists, other youth disciplines among others, are becoming increasingly concerned with education and the educational process and are entering the education arena with great interest. This is particularly reflected in work going on in preschool and elementary education. In addition, discipline specialists are moving into creating new programs. Geographers are constructing curricula for elementary geography, as are historians, mathematicians, anthropologists, etc.* The end result is a burgeoning of curriculum materials and cries for changing of the educational system to incorporate these new curricula.

Many of these curriculum changes are aimed at compensatory programs for disadvantaged children of all ethnic and racial groups on the American educational scene. In order to enable underprivileged children to cope with educational requirements, curriculum innovations have been brought about. These curriculum innovations make new demands on teachers, requiring them to alter teaching strategies, content, classroom organization, etc.

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*The Social Science Education Consortium, University of Colorado, Boulder, Colorado, under the direction of Dr. Irving Morrissett, represents this type of effort.

The demands are intensifying because the training teachers had is obsolete. Teachers need retooling if these new programs are to be utilized effectively. This, in the current educational system, is a major problem facing curriculum builders since the teacher is central to the entire process of curricula innovation and utilization. Our conviction was shared by Dr. Edith Grotberg who felt the issue of sufficient magnitude to warrant arranging this seminar. We appreciate her interest in this problem and are grateful for the opportunity to be here today.

What is the role of the teacher in the establishment and implementation of intervention programs? New curricula are accepted by public and private school systems and the teacher is expected to participate in these programs, sometimes with intensive inservice training and other times with a more casual approach. In either event, the expectation by administrative officials is that the teacher will employ the new programs because they are presumed to be better than the old. The teacher, however, has been trained perhaps, with other conceptual views and with other understandings of materials and educational objectives. Thus, when new curricula are presented and the teachers are asked to participate in their use, what and how should the teacher's role be viewed? Our contention is that the degree to which the teacher is open to and willing to change, is open and willing to participate with commitment to inservice training programs, to that degree will the teacher cooperate and help make the program a success. Otherwise, the program will be handled in a desultory manner with resistance and with serious question as to programmatic use. It is to that end that I saw fit to bring the matter to the attention of the group of educators for discussion and consideration.

The issue of innovation and change in education is certainly not new, nor is it in any way limited to teachers of disadvantaged children. The appropriateness of bringing it to the attention of teachers working in such programs as Head Start or Follow Through rests with the current advances made in curriculum under the auspices of these organizations. Therefore, teachers participating in new programs with disadvantaged children are being subjected to a greater barrage of innovations, and also greater demands for change. This is necessary since most teachers have not had systematic or academic training emphasizing work with these various disadvantaged groups. Further, the demands of both government and segments of the public for resolution of school problems with children of these marginal groups are increasing. Now programs and teachers working with disadvantaged children are subject to greater critical scrutiny than ever before. The situation is critical; the issue really is a broad one of education as a whole, for the whole system is involved in innovations and change. The issues discussed in this conference relative to change for teachers of disadvantaged children are relevant to the general questions of educational innovation. The specific type of change that might occur may differ, but the principles of coping with innovation are generic.

Because of the point of view, the concern with general questions relevant to education, the papers are broad in scope. Application to disadvantaged children becomes obvious. The Sigel and Jackson paper focuses on the role of the teacher in intervention processes, with concern for the teacher's attitudes, feelings, willingness to change. Particular emphasis is placed on the complex role of the teacher as a practitioner, but also as a creative participant in the change process. McDavid describes some of the necessary information and background understanding of child development necessary for the educative enterprise, pointing out clearly and in some detail the kinds of issues, the kinds of knowledge, that become highly germane for the educator. Schalock presents a highly worked out model of teacher education which is relevant to any teacher education setting. He does not feel that we have moved adequately in previous programs. As will be seen, his model holds that increasing the motivation of teachers, or giving them an opportunity to shape curriculum, or giving them an opportunity to execute the curricula in their own idiosyncratic styles is not enough, and does not guarantee that teachers effect desired learning outcomes for children. Dr. Schalock feels that focusing on attitudes as discussed by Sigel and Jackson is inadequate. He moves beyond that by providing a competence model from which to work. Application of this model, he hypothesizes, will result in the teachers being prepared to accept the ongoing changes in the educational field by acquiring the needed skills and competence to carry out the objectives.

Finally, we come to Dr. Beller's paper, which is an empirical study, demonstrating dramatically the significant role the teacher plays in influencing the child's motivational system and contributing to the child's reward system. By showing the difference in outcome of authoritarian or democratic teacher types, Dr. Beller presents convincing data demonstrating that these behavior patterns, as well as attitudes of teachers, have impact not only on what the child learns, but his approach to learning.

These papers, in their entirety, are aimed at focusing on and elaborating the role of the teacher in the educative process. The degree to which we have elucidated this, to that degree do the papers serve as furthering the cause of progress in education.

ANALYSIS OF TEACHER ROLE IN EDUCATIONAL INTERVENTION PROGRAMS[1,2]

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The educational enterprise is currently undergoing considerable soul searching, especially in regard to intervention programs with underprivileged minority group children. Concern is, among other matters, for curriculum, teacher preparation, school organization, etc. Intervention programming is really a euphemism for curriculum and teaching innovation for minority group children who are failing to profit from current educational activities.

The thesis to be expounded in this paper is that the success of these intervention programs is ultimately dependent on teachers' acceptance, commitment, and skill in carrying out programs. Reexamination of the teacher's function through logical analysis and subsequent recommendation for definition of teacher role and consequent programmatic actions are considered as the necessary and sufficient requirements for effective long-term planning.

The degree to which the teacher is committed to carry out the substance as well as the spirit of an educational innovation, to that degree can the program be effective. This is our contention. Irrespective of the state of the learner, the elegance of the program, with its accompanying technology, the enthusiasm of principals, superintendents or administrators, the teacher's involvement is the key.

The ultimate control of what goes on in the classroom resides with the teacher. Consequently, if the teacher is an enthusiastic knowledgeable professional with a positive attitude and high morale

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1. This paper was presented at a Head Start Research Seminar April 19, 1969, in Washington, D. C. under the auspices of the Office of Economic Opportunity.

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toward the new program, to that degree will the program work. If the teacher is desultory in interest and commitment, if he is unconvinced of the value of the program, if he does not understand its conceptualization, if he has not mastered the teaching strategies and necessary skills to implement it, to that degree will any intervention program, or, in fact, any educational program, be doomed to fail. It is within this context of the significance of the teacher role that the arguments of this paper will be developed.

Unfortunately research data to support the propositions herein cannot be provided since relatively little research has been done directly germane, to wit, the relationship between teacher involvement and commitment and curriculum success. It is a difficult and tricky question, of course, to investigate empirically. Much work has been done, as we know, on teacher attitudes and personality, and we shall have occasion to mention these later, but our contention is that it is the interaction between these personality characteristics and curriculum change that relates to effective pupil change. The attempt in this report will be to derive a hypothetical and analytic model which could hopefully stimulate analysis of the role of the teacher vis-a-vis the educational intervention programs, guide program development, and encourage research.

What is Intervention

The term "intervention" has in recent years become the euphemism for modification or change or alteration of programs in the service of minority group children. Actually the term in this sense is made restrictive since it is infact a general term, describing all educational programs, because education by definition is in fact intervention. After all, the word "intervention" refers to intrusion, or stepping into a stream of ongoing activity. From this vantage point, all educational efforts are interventions, particularly since the fundamental task in the educative process is to socilize the developing child. Thus, intervention is a form of socialization, basic to educational activity. The school is a significant socializing agent because it provides the child with experiences which are geared to expected socialized outcomes. The school, its physical and social organization, its array of personnel, has as its basic social goal the modification of the behavior, attitudes, skills of children. The teacher is the prime agent, who by his own behavior in various phases, ranging from classroom organization to teaching strategy, attempts to influence the developing child. In this way the teacher introduces the child into a world of problem solving and learning, teaches the child where and when to express impulses, where and when to express ideas, how to go about detecting and solving problems, how to acquire certain bodies of knowledge, and how to express all this, both in behavior and attitude. The outcome, over a long socialization period, is expected to be an educated person oriented in behavior and attitude toward work, toward achievement, toward social living in the modern cultural context. Intervention as viewed in the context of socialization then is an accepted social responsibility of the school. This point of view is relevant irrespective of grade level, public or private school, or minority status of the children.

The model, then, speaks of the school as a socializing agent. This is not to say that other socializing agents do not exist, such as the family, the church, and peers. But the oft stated concern over the quality of public education, the control of schools, the tremendous intensity with which integration and segregation of schools should be carried out, all support the concept that society views the public school as a significant socializing agent. This then is social confirmation for our argument that the school is expected to play a fundamental socialization role along with, and presumably consistent with, the goals of other socialization agents.

The teacher is a key individual, intrinsically involved in this socialization process. He provides, by his own actions, models of behavior, metes out punishments and rewards for appropriate responses in an array of behavior and attitude settings ranging from response to academic subjects to ways of greeting strangers. In the final analysis, the teacher becomes a critical concrete expression of the society. By the way, the fact that we talk about the teacher as functioning in loco parentis lends further support and validity to the legalization of the concept of the teacher's role. Further, historically the rules and regulations governing the behavior of teachers, the prescription of particular sets of behavior, of morality, loyalty, and devotion to duty, further support the validity that the society places considerable import on the significance of the teacher's socializing functions.

If all education is intervention, and if the teacher is the central figure in implementation, then further analysis of the teacher role requires discussion of the intervention phenomena and particularization of the teacher's role in it.

As was indicated previously, and to recapitulate, the popular use of the term "intervention" is for compensatory type of education where reference is made to changing ongoing educational programs with the expected hope of altering outcomes of pupils' behavior. If this is true, then intervention implies that the educational establishment admits to the failure of the status quo educative enterprise in reaching these marginal ethnic, racial and poverty level groups who comprise large and important segments of the public school population. The failure, then, of the status quo demands the need for change and the major challenge is to decide on how to intervene. Basically then the issue of how to alter the status quo and maximize program opportunities for marginal groups of children. The direct implication, in sum, is that the school's methodology is inadequate for socializing these children and must thereby be reoriented so that program effectiveness will emerge.

Viewed in this way, intervention requires changing the curriculum. Since the existing programs are judged as ineffective or inappropriate for various types of marginal and impoverished types of population, the change must be toward new and different curricula which must reflect their appropriateness for modification of the behavior of marginal populations. Intervention as conceptualized in this paper must be in toto. In the current educational enterprise, changing its nature and its content and its practices, as well as its methodology, to become a more effective socializing agent means that every aspect of this totality should be subject to change. Central to the total effort is the teacher, for in the final analysis, it is he who is the direct contact between the program and the consumer, namely the child.

Granting the need for overall change in educational theory and practice, we cannot, in this discussion, take on the whole ball of wax. Therefore, the focus is going to be on the central figure, the teacher.

The significance of the teacher as an agent of change has been duly summarized in this paragraph quoted from an article by Chase:

> The existing literature on educational innovation and social change provides little either in the way of empirical data of verifiable hypotheses on how to accelerate the process of making education a more effective instrument either for the realization of social goals or for the development of individual capacities and talents. Without an adequate understanding of the forces influencing change in education or the processes through which the institutions of education interact with culture and society, it is difficult to predict the direction and amount of future change or to specify the factors which are likely to determine changes in the future. Consequently, attempts to intervene in educational change processes are likely to be inept and ineffective.
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> Too often the implicit assumption seems to be that adoption of a new form of organization, technique of instruciton, or way of grouping learners is in itself an indication of progress and, therefore, to be applauded. Yet, an examination of the changes in educational practice which have occurred over the past fifty years would lead to considerable doubt about the educational significance of many of them. Professional and popular books, periodicals, newspapers, and telecasts create the impression of sweeping changes over the past several years in the content and method of instruction, in school buildings and facilities, and in ways of grouping

> learners and using teachers. The new mathematics, the new science programs, the new emphasis on the teaching of foreign languages, the use of television and programed instruction, nongrading and continuous progress, and team-teaching are all much in the educational news. Yet, careful observers, including several of the authors of this yearbook, report that many classrooms are little affected by the new ideas and that the exciting developments which are taking place are attributed generally to teachers of unusual intelligence, resourcefulness, and sensitivity to needs of learners (Chase, 1966, p. 281).

The conclusion that Chase comes to is consonant with the proposition of this paper to the effect that the excitement in the field of education will only effect classrooms to the degree to which teachers are committed. Rather, however, than assume that only teachers "of unusual intelligence, resourcefulness, sensitivity to the needs of the learner, can be committed," as Chase purports, we prefer to take a more optimistic view, to wit, that proper and appropriate teacher training and programming, both preservice and inservice, can create the kinds of attitudes and orientations that are necessary for the diffusion of educational innovations. It is through such activities that we can come to grips with the educational crises we are currently facing.

Definition of Teacher Roles

Defining the teacher's role is certainly not a new activity. Much has been written on this very question. For the discussion in this paper, it is necessary to consider the teacher's role specifically as relevant to intervention programming. Consequently we define three essential role dimensions: planning, practicing, and evaluating.

The planning role of the teacher refers to his involvement in the developing of, and/or the modification of programs.* At the earliest practical moment teachers should be involved in and commited as significant participants in the planning phase of curriculum innovation or change. Too frequently the classroom teacher is not invited to be an active participant in planning, but rather is subordinate to curriculum supervisors or other types of program developers. The teacher's professional know-how and personal experience, as well as the fact that these programs will be carried out by him, are sufficient for advocating teacher equal participation in planning phases. Involving teachers in this initial phase has the potential for twofold positive outcomes, one informative, enabling the teacher to understand in detail the program logic and content; and second, psychological, creating an involvement and identification as a program builder. The professional hierarchy has to undo the teacher's conviction that he is professionally inferior with respect to program development. When the teacher is appropriately and respectfully integrated in planning groups, the teacher's feelings of competence in himself should be enhanced, aside from the economy of utilization of his experience and skills. To be sure, not all teachers are equally competent or skilled, or even interested, but this does not deprecate the necessity for teacher involvement. Teachers must be included in program planning activities so that the teacher can perceive himself as integral to the innovative phase of program development.* Thus the teacher must be involved in various decision making efforts in the initial planning phase.

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* For the sake of convenience, in this paper, the words "program" and "curriculum" are used interchangeably. Both refer essentially to the educational array of activities that are engaged in. This can include subject matter, extracurricular activities, and the like.

The practitioner function of the teacher is self-explanatory. Teachers form the basic administrators of any program. How they practice, what they practice, their understanding of their practices, and the awareness of one's competence in carrying out various activities, are all subsumed under the heading of teacher capability. This is the traditional role of the teacher, and little need be said at this point.

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* Of course, not every teacher in every building can be included in all the programming. The formal committee structure that may be used, or the study groups that are set up, and the reporting systems to these groups,should be organized in such a way to give teachers the feeling that they can communicate to the planning group, that their points of view make sense, and that their opinions have opportunity of being incorporated. In other words, the mechanisms by which this larger group see themselves as involved and committed must be worked out to maximize the perception of involvement.

The teacher as an evaluator is a significant role that is too often underemphasized. This is a twofold function where the teacher behaves as follows: (1) as an evaluator of the performance of the children. This is the traditional teacher performance where the teacher uses a wide array of assessment procedures to evaluate the child. This type of assessment refers to the child's responses to the program; and (2) as evaluator of the program itself as reflected in the child's acquisition of particular skills, knowledge, attitudes and behaviors expressly related to the program goals. In this second phase, the child is the dependent variable and the program is the independent variable, in contrast to the first aspect of this bifurcation where the child is the independent variable and the program the dependent variable. Somewhat complicating this evaluation issue is the fact that the teacher is also a participant in this process. The teacher is the crucial connecting link between the program and the child. The teacher's competence is now involved, where effectiveness of the program is related to the teacher's ability to teach the program.

In effect, there is a threefold interaction; the program, the children, and the teacher, all three elements embedded in a group experience. It is in this latter phase that the teacher should function as a participant observer. We contend that it is in the total classroom experience that teachers have too little training and experience in serving as participant observers, or, in effect, studying the classroom environment. This function of the teachers is viewed not only as a describer of events, but also as an event analyst, where the teacher provides some explanation and insight into what is going on. Since such functions are new for most teachers, appropriate pre- and inservice training is necessary, thereby contributing mightily to the quality of such participant observation by the teacher. Valuable data would be obtained detailing the processes and rationale for various events occurring in the classroom situation.

Finally, the teacher should and could play the unique role of accepting himself as a research subject in evaluation studies. If we accept the proposition that the teacher is the central figure in influencing the effectiveness of any intervention program, then it becomes important for the teacher's attitudes and behaviors to be incorporated in any research program investigating program outcomes and modification of child behavior. The only way this can occur is for the teacher to accept this role of participant in this evaluation endeavor. This calls for the teacher being able and willing to subject himself to assessment, which in the last analysis reflects on his competence as a teacher and a person. Since one class of variables determine the effectiveness of a program resides in the personal and professional domain of the teacher, then it becomes necessary to show teachers why this role of being an informant is important. Techniques, of course, have to be established to support the significance of the teacher's efforts here and appropriate concern and consideration for his acceptance as well as resistance must be considered and worked through.

Functioning as a planner, as a practitioner, and as a participant in the evaluation process is a formidable task, requiring considerable giving of self and psychological strength to put all the roles in perspective. Further, the nonteaching personnel involved must show sensitivity, understanding, and above all, the maturity to assess the role of the teacher. These same factors no doubt are involved in accepting the role of the teacher.

From our perspective, these are the realities involved in the teacher's role in intervention programs. Drawing attention to the complexity is intended as furthering the logical analysis with which the ultimate goal, namely the enhancing of the effectiveness of programs in the context where teachers, children, and the public, is satisfied.

The Teacher as a Change Agent and a Change Agent Subject

The previous discussion emphasized the teacher's role as a planner, as a practitioner, and as a participant in the evaluation process. These role prescriptions have been clearly defined, where the planner is involved in making decisions about inputs in curriculum; the practitioner is involved in carrying out these inputs and devising the necessary strategies to do so; and the evaluator functions as a participant observer as well as an evaluator of the program and the children--requiring thereby establishing measures for assessment. All these, complex as they are, do define role behaviors for teachers which have definitive tasks to each particular role as attribution.

Underpinning these behaviors is the teacher's feeling and attitudes about each of these role prescriptions. Teachers will vary in their acceptance of these definitions in part or in whole. Teachers may resist participating as planners, or may resist participating as evaluators. They may resist the acceptance of innovative procedures in practice. It must be said, however, in defense of the system, that these role prescriptions are not defined solely by the task itself, i.e., the adult with a group of children in a classroom. Rather it is to say, that given the classroom type setting and the demands made upon the classroom, the role definition described above seems intrinsic to the setting. Acceptance of these as valid descriptions of the generic teacher function enhances the development of a model and subsequent relevant strategies to implement this model, thereby effecting teacher effectiveness. Acceptance of such a model, however, cannot be by dictum, but rather must be by a change in teacher attitudes toward teacher roles and the significance of making one's self ready for change.

The attitude of the teachers toward these roles is a significant factor in influencing the furtherance of educational innovation. If the teacher accepts these role prescriptions and functions accordingly, then he is brought into the change effort. If, however, the teacher is resistant, then the task becomes a formidable one of enabling the teacher to become an open and flexible person, amenable to alternate views of the educational engerprise and willingness to participate in those activities designed to understand that the teacher role is many-pronged.

Explicitly,what we are contending isthat for effective teaching to occur, it is necessary for teachers to be oriented to change. If teachers are not oriented to change, then opportunities for progress and for improvements obviously are impeded if not prevented. In effect, then, the teacher's attitudes must be worked with to orient teachers to assimilate and accept the inevitability of change in educational programs, teaching strategies, teaching objectives, and even in our understanding of the nature and quality of the children. These requirements are relevant since new knowledge is consistently being obtained about all facets of the entire educational process. As new knowledge is obtained within particular fields of instruction, as new technology emerges by which these instructions can be enhanced, as we begin to discover more about the conditions of and principles of learning, then it becomes a necessary and sufficient condition for effective teaching to have the practitioners willing and capable to assimilate the new knowledge and accommodate their own points of view accordingly. This means that teachers must be oriented as professional people to the basic premise that the educational enterprise, as now defined, is tentative and relative to the amount of knowledge we now have. With the increased knowledge acquisition, changes will have to occur. Teachers have to learn to accept uncertainty, therefore, and operate within a relativistic system. This is a very difficult task for people to accept. Yet for progress to occur, it seems that it is a psychological fact that change can only occur when people are ready and willing to change.

What we mean, in effect, is that the teacher must view himself as ready for change and by such readiness, the teacher enhances his own function as a change agent. The posture we are advocating is that the teacher must become an open system, receptive to change, capable of assimilating new ways and thereby becoming an effective change agent influencing the educational system. It is by such an attitude that the teacher enhances his functioning in all of the three role prescriptions described above.

For the sake of clarity,perhaps we should reiterate that our concept of change agent refers to the role of the individual, as well as his perception of self as an actor, to alter the status quo. As an agent the teacher begins to behave in ways to effect this change. As a change system, then, we mean that the teacher should see himself as capable and willing to alter in relation to new information. Thus, for the teacher to perceive himself as a change agent, ready to improve that which exists, he must be ready to discard the old to take the risk to try the new, as well as to reorient himself to take new looks at the old and the new. Such an undertaking and a willingness to take risks is related to personality characteristics. The danger is that some individuals are so psychologically constituted that the task is so anxiety provoking as to immobilize them. Thus care and sensitivity are essential in working with preservice or inservice teachers in this regard. There are ethical issues which must be considered,such as the degree to which modification of personality is relevant or germane, what options teachers have for resisting certain degrees of change and asserting resistance, etc. It must be made patently clear that sensitivity and cautiousness to the feelings of the teachers should not be used in the service of foot-dragging or reluctance to change. The task actually is to define criteria by which the teacher as a change agent must be open, and what is meant by openness. Viewing the sector of the teacher's personality as that which contains variables relevant to the teaching process, it is somewhat easier to define the domain which is relevant and appropriate for discussion when the goal is to increase the teacher's openness to be a flexible person.

The teacher's willingness to accept his own function as that of a change agent is really to perceive himself as an intervention agent. For is that not what intervention is all about. In essence, to function professionally as an effective and up-to-date agent of change calls for a willingness to change too. What, in effect, we are proposing here is that the teacher perceives himself as a perpetual student, and thereby takes the student's attitude , one of problem solving orientation toward analysis, toward acquisition of new knowledge, and utilizing it.

Consequently, it is important that teachers, particularly in preservice periods, be made aware of the need for perceiving of self as a change agent, while at the same time working toward becoming an open, flexible person.

Some Considerations of the Relevance for Attitude Toward Change

We have defined the teacher's role as a planner, practitioner, and evaluator--each of these functioning in the service of curriculum change. In effect, the teacher may serve as a change agent.

Taba, in her excellent volume on curriculum development (Taba, 1962) describes the strategy that is necessary for curriculum change. For her, curriculum change "means in a way to change an institution. Changing an institution involves changing both goals and means" (p. 455). Taba proceeds to say that "changing the curriculum also involves changing individuals" which

> ...involves two types of changes. One is the change in the way he is oriented to the world around him, what he perceives and apprehends--the cognitive aspects. The other is the change in his emotional orientation--what he feels to be important, what he is motivated to do, and what emotional investment he makes in his goals. The change is effective to the extent that the two become integrated. At times the two are compartmentalized. Teachers may be exhorted and inspired to change without provision of means for change, as in the case with inspirational talks at teacher institutes. Or they may be led to new perceptions and ideas without involving their will to do anything about it (Coffey & Goldner, 1967, pp. 72-73).
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> An effective strategy of curriculum change, therefore, must proceed on a double agenda, working simultaneously to change ideas about curricula and to change human dynamics (Taba, 1962, p. 455).

Taba provides six steps in the stretegy of curriculum change:

(1) Curriculum change requires a systematic sequence of work involving such issues as initiation of change, order of change,

(2) The strategy for change must include an environment conducive for work,

(3) Effective curriculum change involves a large amount of training--"most curriculum decisions, no matter what their scope, require application of theoretical principles, what balance of theoretical insight and practical knowhow is needed?..." (p.455-456),

(4) A significant dimension are the human and emotional factors for Taba holds that "to change thinking about curriculum one also needs to change people's attitudes toward what is significant and perceptions about roles, purposes, and motivation. To effect change means to destroy dependencies on previous habits and techniques of work, with whatever personal meanings these have" (p. 456),

(5) Many competencies are necessary and these skills must be organized so that there are clear definitions of role of administration, curriculum specialists and others. Who and how different specialists participate needs be decided since not everyone has to participate in all phases,

(6) Competent leadership is required for effective curriculum change. Skilled leaders have to guide the change process through the complex steps required.

The planning for change requires consideration of these points. Taba does elaborate each of the above points, and the interested reader is referred to that magnificent discussion.

Suffice it for our purposes to point out that these complex processes are necessary to effect success of intervention programs.

Relevant as all these issues are, the one that is of paramount importance for the teacher is for him to accept the role of a change agent. "To effect changes means to destroy dependencies on previous habits and techniques of work, with whatever personal meanings these have" (Taba, p. 456).

The attitude of the teacher toward program change for intervention comes to the fore as a salient variable. The teacher has to accept the need for the change as well as the kind of intervention program. A further complication in this discussion is that the change in program is intended for minority group children.

Attitudes and beliefs of the teacher toward this population in terms of their learning potential, intelligence, and personal habits are all ingredients that influence the receptivity of teachers to change. In essence, the teacher must be willing to change his practices and program in order to serve minority groups more effectively. How readily can resentment then be aroused? Why, the teacher might ask, must I change all that I have learned because of these disadvantaged children? Herein rests the great challenge for the teachers--to accept changes in the program and simultaneously to accept the capability of the pupils to profit from this new endeavor.

The curriculum revision in intervention programs is necessitated by failure of existing programs, and teachers may resent the children who are the apparent cause of these new endeavors. For some teachers there is excitement in the new and the challenging, while for others, there is no such challenge. It is to this latter group that our remarks are addressed.

Attitudes of teachers will play an important role in their accepting change. These attitudes will fall in three major areas: (1) the attitude toward self as a change agent; (2) attitude toward leadership defining the need for change; (3) attitude toward the "cause" of change--the "disadvantaged" child.

Attitude toward Self as a Change Agent:

Does the teacher define his role as a program change agent or does he relegate this responsibility to administrators, curriculum supervisors, etc.? Does the teacher perceive himself as a passive recipient of innovations; this is not a change agent role. It seems, however, that if our basic proposition is correct, that the teacher must understand the theory and strategy of a particular curriculum, then teachers can and must be active participants in the change process. This is necessary even if it means altering one's own role perception.

Thus, the teacher's attitude and definition of his role must be enlarged to include the change agent function.

Attitude toward Leadership:

Initiative in curriculum change can commence at any number of levels, probably depending on the structure of the system. If change is to be a grass roots movement, wide participation will probably be needed requiring an array of leadership roles. A good illustration of the leadership role is described by Taba, pp. 482-490. This is an area too complex to spell out in this paper. Suffice it to point out,however, that for intervention programs to become part of the repertoire of a teacher's competency, the teacher must involve himself in the change-program. We believe that the attitude toward the leader or leaders in these programs as well as the willingness to accept leadership functions are critical factors influencing acceptance of the program.

Attitude toward the "Cause" of Intervention:

Teachers may believe that the "source" or "cause" of the intervention programs is the underprivileged child. His lack of motivation and task orientation, his unwillingness to participate in the learning endeavor can be viewed as the "cause" of much of the educational uproar--especially in urban areas. Resentment toward the child, his family and his group may well emerge--creating negative or defeatist attitudes toward the entire enterprise. The issue is more than academic. There are those who indite the entire educational system, not only economic and racial minority children; others argue the system is doing pretty well--the problem is lack of progress in "how to change the disadvantaged pupil into a more effective learner. When we find out how to change the pupils,...we will be quick to make the necessary institutional change" (Havighurst, 1969, p. 11).

Much heated controversy exists in this area, namely the degree to which the marginal ethnic or racial minority child and his family are the source of the difficulty. If only they would learn how to participate in the status quo, then all would be well.

The fallacy to this argument is that the educational institution at all levels for all children is in need of overhaul--note the recent disaffection of Black parents in New York City and a growing interest in community control.

If teachers, however, have racial or ethnic prejudice, however well rationalized, to that degree will they be resistant to change and resentful of the time and energy and money involved in such efforts.

It is incumbent on any group involved in intervention programming to identify and attack this problem directly. There are indeed many subtle ways that racism can be expressed; consequently it is necessary to have leaders and group members sensitized to this issue.

The difficulty is that we are living in a very difficult period in terms of social change--race relations, intergroup relations, etc. The confusion is not limited to the layman or the unintiated--note the recent controversy set off by the publication of the article on Negro intelligence by Arthur Jensen (1969). Eminent scholars rebutted him. The issue--the intelligence of the blacks. No, the issue of racial equality, social or intellectual, is by no means dead. It is better dispersed, less blatantly avowed, and, in many sectors of our society, becoming an issue of increasing resentment.

Teachers reflect community perspective and offer community attitudes. How deeply rooted may be their feelings toward the disadvantaged children and their families, to that degree will their behaviors be influenced.

Racial prejudice is not dead. Teachers have as their obligation a professional concern here--they must not harbor feelings and attitudes and beliefs which compromise their function as teachers. Consequently, assessment and clarification of feelings toward these minority group children as "causing" educational crises in our cities is needed. Perspective is needed, to wit, our educational system has for too long neglected to do anything about large masses of its populations--now we are paying the price of that neglect.

Institutions and systems of education as well as children and families will have to change, thereby benefiting all segments of the social order.

Concluding Comments

Attitudes can be changed. There is a body of social psychological literature devoted to this. Further, research in group dynamics has also revealed techniques and procedures for accomplishing these modifications.

This paper is not a manual for such achievements. Rather our purpose was to define from our own perspective the role of the teacher in intervention programs. Our conviction is that his role is central, that recognition of this is necessary, and that proper steps at preservice and inservice levels are vital. These steps include helping teachers clarify their own roles and attitudes so that they can be more effective participants in the process of educating of change. Without such involvement and commitment, coupled with ass-roots movement for change, intervention programs will be in difficulty. Appropriate programs that are accepted by the teachers and implemented skillfully should result in enabling disadvantaged children to participate fully in the new educational system--one that honestly seeks to meet their social and psychological needs.

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Teacher Intervention and Teacher Education: A New Model for an Old Dilemma

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The purpose of the present paper is to outline a model of a teacher education program that is designed to insure that teachers are able to make such mixes and therefore are able to bring about the desired outcomes in pupils within the educational contexts within which they teach. As initially developed the model focuses on the preparation of early childhood and elementary teachers at the preservice level, but the model is sufficiently generic that it can be adapted to the preparation of all teachers at either the preservice or inservice level.

The ComField (competency based, field centered) model teacher education program is one that has evolved from the work of a consortium of institutions and agencies in the northwest region of the United States in response to an invitation by the U.S. Office of Education.[1] The model derives from the primary assumption that prospective teachers should be able to demonstrate prior to certification the functions that they are expected to be able to perform after certification, e.g., bringing about given learning outcomes with children or bringing about specified parental involvements in programs. As such a model based program requires

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[1] The initial model development effort is reported in Schalock, H.D. and Hale, J.R. (Eds.) A Competency Based, Field Centered Systems Approach to Elementary Teacher Education. Vols. I, II & III: Final Report for Project No. 89022, Bureau of Research, Office of Education, U.S. Dept. of Health, Education, and Welfare, 1968. Additional work has been done on the model by a consortium of colleges and schools in Oregon, and this work has been incorporated within the present description of the model.

a) that the functions to be performed by teachers in given settings be specified; b) that the behaviors or products of behavior that are acceptable as evidence of the ability of prospective teachers to perform those functions be specified; and c) that the teacher education program in fact leads to the ability of prospective teachers to perform the functions specified in (a) as measured by the indicators specified in (b).

Four additional assumptions underlie the model:

1) that prospective teachers should be able to demonstrate prior to certification that they are independent, self directed learners and that they can adapt to new situations that demand new patterns of behavior;
2) that a teacher education program must be relevant personally to those going through it; that is, it must accommodate individual differences in learning rates, styles, objectives, etc.;
3) that a teacher education program must be responsive to the needs of a pluralistic society by preparing prospective teachers to function within a wide range of social contexts; and
4) that if a teacher education program is to be genuinely responsive to the needs of a pluralistic society, that is, if it is to prepare teachers to be able to function within a broad range of local educational programs, it must provide for community participation in its own definition and operation.

Finally, the model rests upon a commitment to the methodology of systems design. Generally speaking, the application of systems design principles means that each of the functional parts within the model, as well as the model as a whole, assumes three characteristics: a) it is designed to bring about a specified and measurable outcome; b) it is designed so that evidence as to the effectiveness with which it brings about its intended outcome is continuously available; and c) it is designed to be adaptive or corrective in light of that evidence. This is the case whether the part in question is a segment of instruction within the program, a segment of the procedure developed to personalize the program, or the personalization procedure as a whole. As such the model represents a process or way of proceeding. It is "goal oriented," characterized by "corrective feedback loops," etc. In short, it is a process that requires its user to know what it is that he wants to accomplish, order events in such a way that he has some probability of accomplishing it, assess whether the specified events do in fact accomplish that which they are intended to accomplish, and if they do not, modify them until they do. This process is represented schematically in Figure 1.

Given its defining characteristics ComField can best be described as a model of an elementary teacher education program that is systematically designed, personalized, competency based, and field centered. The basic concepts involved in and the operations dictated by the model are summarized in the paragraphs which follow.

THE DEVELOPMENT OF PROGRAM OBJECTIVES

As indicated the goal of the ComField model is to prepare teachers to be able to perform the various functions required of them in the elementary schools of the 1970's and 80's. Three steps need to be taken to translate this general goal statement into operational program objectives:

1) specify what elementary education will be like in the 1970's and 80's;
2) specify the functions to be performed within such an educational context, for example, managing instruction, contributing to instructional systems development and evaluation, conferencing with parents, etc.; and
3) specify the tasks to be performed within each function in order to carry it out. As used in the ComField model tasks that teachers are to perform are defined in terms of the outcomes to be realized in the school setting, that is, the outcomes to be achieved through instruction, evaluation, conferencing with parents, etc.

Such a conception of teaching tasks represents a major departure from most analyses of objectives that accompany teacher education programs, and is critical to the operation of the ComField model. By taking the point of view that the tasks to be performed by teachers are equivalent to the outcomes to be realized within the school setting, in contrast to actions to be pursued or roles to be filled, the designer of a teacher education program is forced to specify the objectives of the educational enterprise at the elementary school level as a basis for the development of his teacher education program. This includes the classes of pupil outcomes that are to derive from the educational program, the outcomes to be achieved through working with parents, the outcomes to be achieved through working with peers in curriculum development and evaluation, etc. It represents, therefore, an extremely rigorous requirement in program development, but, in the view of the developers of the ComField model, a necessary one if the major assumption on which the model program rests is to be met with candor. It is a necessary assumption also if education and teacher education are ever to move away from the position that the performance of certain classes of activity on the part of teachers, for example, asking questions, administering tests, giving information through exposition, and guiding reading in a workbook, are sufficient in and of themselves to bring about learning in children or are sufficient in and of themselves as evidence of a prospective teacher's ability to bring about learning in children.

One of the major consequences of considering tasks to be performed by teachers in terms of outcomes to be achieved in the schools is the burden of responsibility it places upon those in the teacher education program to develop reasonable and valid task specifications. This is particularly critical with respect to the classes of pupil outcomes that are to derive from an elementary education program, for the welfare of children, the community and nation are at stake. Because of the criticalness of the issue, the ComField model specifies that a mechanism (an educational objectives commission?) be established at the state level, with strong representation from local communities, schools and colleges, to work toward the development of a taxonomy of outcomes appropriate to the function of elementary education in the 1970's and 80's. In addition the model specifies that all decisions as to such outcomes must be reflected against (a) what is known about human development and behavior, (b) what is known about the present social and cultural context, and (c) what is known about the nature of alternative future social and cultural contexts. The basic assumption underlying the development of such a mechanism is that by hitting the issue head on, by doing so with broad representation within a state or a region, and by reflecting the deliberations of such a group against that which is known in the social, behavioral and biological sciences, the best possible set of objectives will be derived and they will have the best possible chance of being accepted by parents, local school districts, departments of education, etc. While such a taxonomy would of necessity be subject to continuous change, both as a consequence of changing demands of the social system and changing knowledge of human development and behavior, it represents a place to begin. Without such a beginning a ComField based teacher education program cannot function.

THE DEVELOPMENT OF THE MEANS TO ASSESS THE REALIZATION OF PROGRAM OBJECTIVES

If a teacher education program is to be taken seriously in its claim to obtain evidence as to the ability of prospective teachers to perform the tasks prior to certification that they will need to perform subsequent to it, the program must become serious in its effort to obtain such evidence.

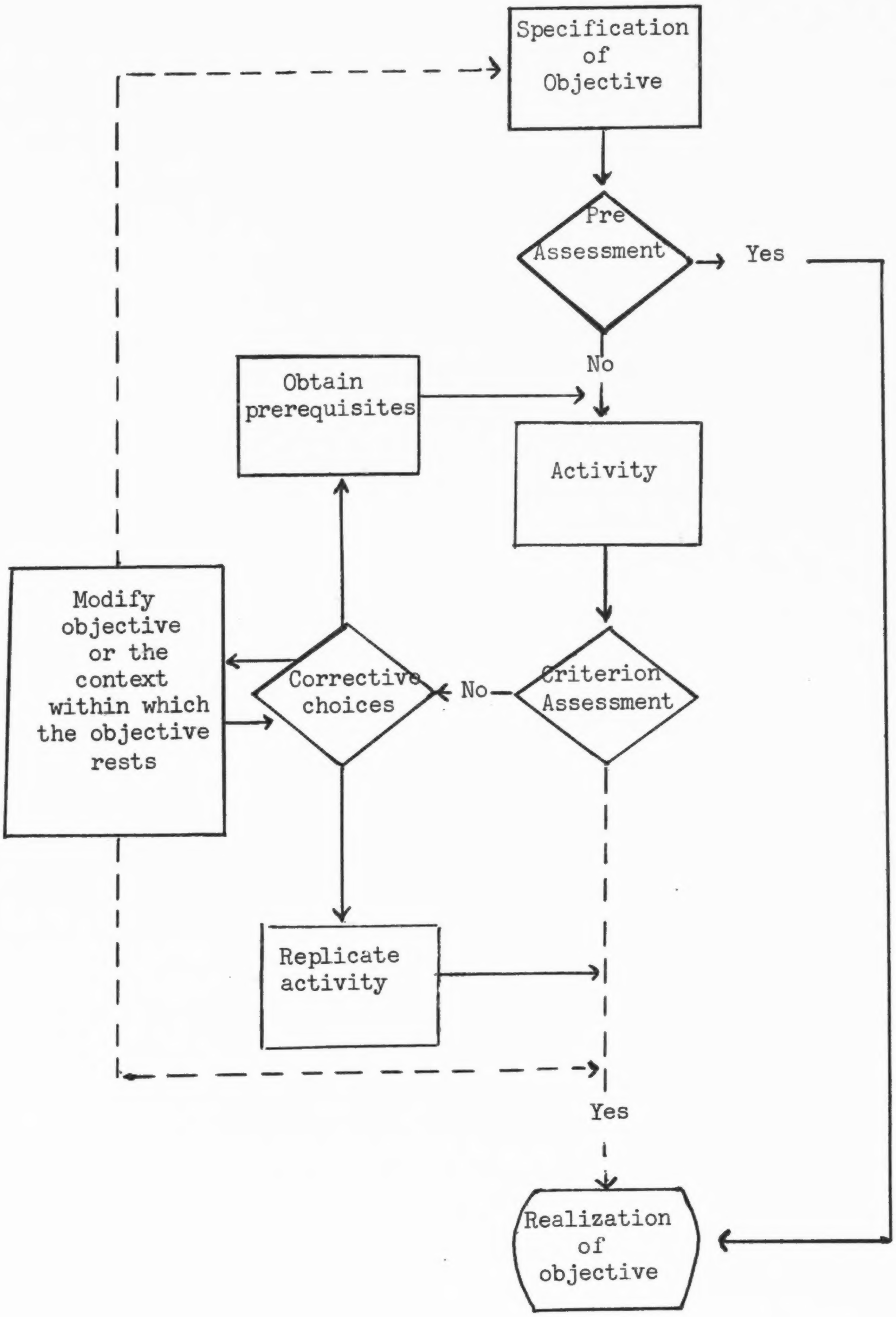
Specification of Objective
Pre Assessment
Yes
No
Obtain prerequisites
Activity
Modify objective or the context within which the objective rests
Corrective choices
No
Criterion Assessment
Replicate activity
Yes
Realization of objective

Figure 1. A schematic representation of the adaptive process reflected throughout the ComField model.

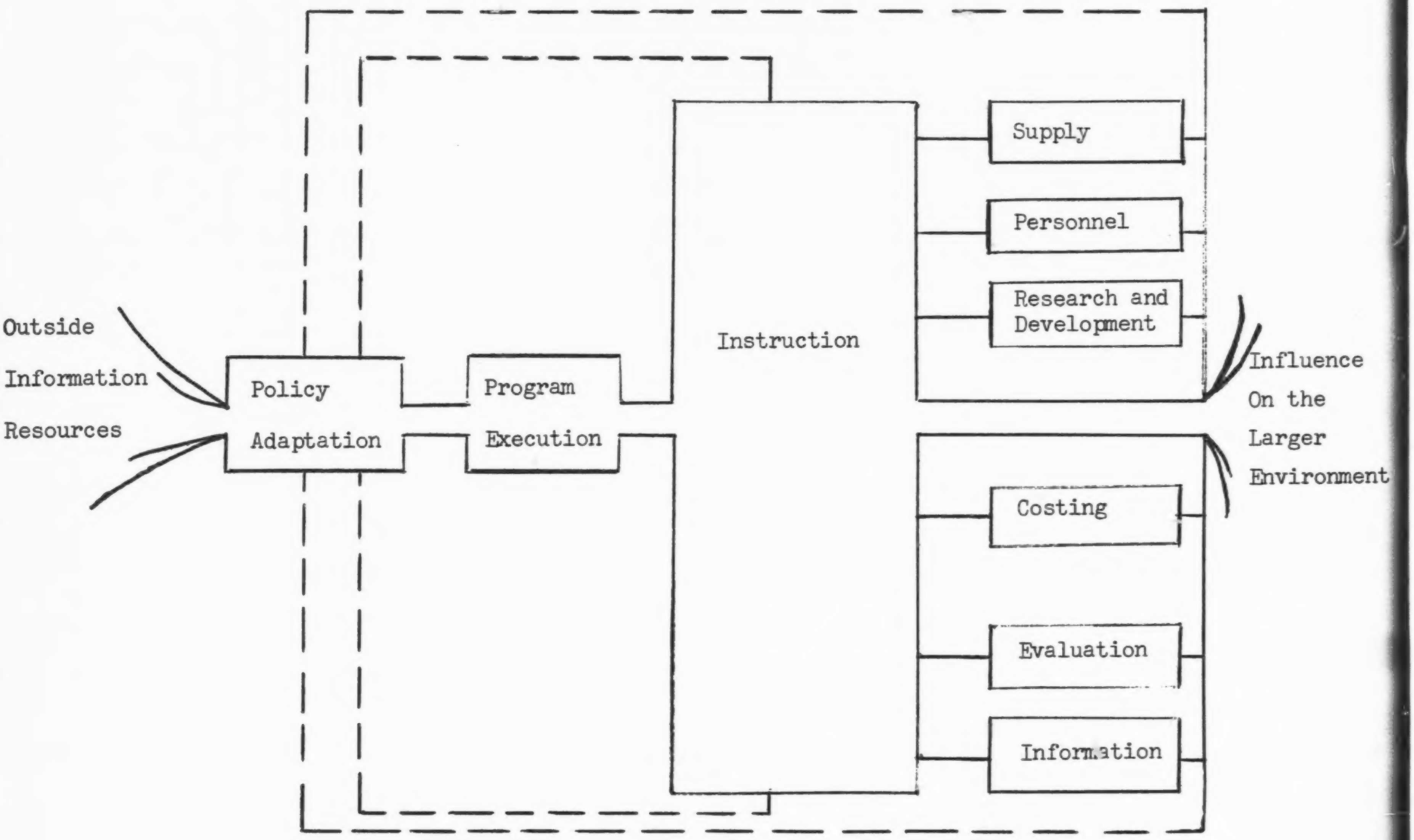
Outside
Information
Resources
Policy
Adaptation
Program
Execution
Instruction
Supply
Personnel
Research and Development
Costing
Evaluation
Information
Influence
On the
Larger
Environment

Figure 2. A schematic diagram of the ComField Management System

THE TEACHER AS AN AGENT OF SOCIALIZATION

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While most speakers on a panel of this sort are inclined to discuss research that has already been completed, I find myself concerned primarily with research that has not as yet been done! In considering the questions related to the role of the teacher in educational intervention that most excite my own interest, I discover a scarcity of pertinent examples. Jerome Bruner has defined education as "assisted growth," and I presume from this that an effective teacher ought to know how to assist a child's growth processes. I presume further that educational and developmental research are obligated to provide the know-how for more effective teaching. Yet the lack of research pertinent to many questions about the teacher's role suggests that perhaps the blind are leading the blind. I will be slightly more optimistic, however, and suggest that there are at least some suggestive leads in current research. In other words, perhaps the one-eyed are leading the blind, and in the world of the blind, the one-eyed is King. I trust that with some stimulation, new lines of research will unfold more rapidly to illuminate our planning of educational practice.

I am concerned with the important role of the teacher as an agent of socialization. The term socialization refers to the sequence of social learning experiences that result in the integration of an individual into his societal context. In social psychology, socialization would be considered to include, for example, the introduction of a child to a new group of playmates when he enters a new school, or the entry of a new committee member into a group that has already begun its work. But socialization also applies to the long complex process of social learning through which an infant, during his progression towards adulthood, is assimilated into the society of which he is a part. Thus a major proportion of the child-rearing and educational processes involves socialization, and the exploration of this area represents a point of intersection between social psychology and developmental psychology.

Socialization is an active process within any organized society. It is a society's mechanism for sustaining and perpetuating itself, for inducing new members of the society to build continuously from the former to the future. Socialization practices include the provision of models or examples to be identified with, copied, and emulated; they include the presentation of standard learning or adjustment situations as problems to be solved or coped with, such as social conventions governing independence, sexuality, aggression, achievement, and the like. They include the direct management of rewards (for "good" or accepted or socially desirable behavior) and punishments (for "bad" or unaccepted or taboo behaviors). In sum, socialization practices are simply social and interpersonal devices for controlling the behavior of an individual, and for shaping it to the mold of sociocultural specifications. These specifications are more or less uniform within a homogeneous society. Anthropologically oriented investigators may be able to characterize in general categorical terms the socialization practices of the Kwoma in New Guinea, the Kwakiutl Indian, the Puerto Rican slum dweller, and the Boston middle-class. Or within our complex society, sociologically-oriented investigators may be particularly interested in differentiating the socialization practices of the white rural midwesterner, the urban Negro, the American Indian, the Protestant professional middle class, the Roman Catholic semi-skilled laboring class, and/or any other combination of racial, ethnic, linguistic, demographic, or other descriptive subcategories one might assemble. The point is that wherever there is a homogeneously bounded society or culture, one may also expect a bounded and defined set of corresponding socialization practices.

These coherent sets of socialization practices are ordinarily implemented by a few specific agents within a society: hence our term agents of socialization. Certain designated individuals, or sets of individuals, or agencies, are delegated major responsibility for carrying out the socialization process. In our society, and in most, the primary family (and especially parents, obviously) comprise the most critical agency of primary socialization. Later in the developmental process, other adult authority figures, peers and agemates both as individuals and in organized groups, and formalized institutions such as religious and ethical systems, contribute further to the socialization process.

This brings us back to the focus of our interest here: on the teacher as such an agent of socialization. In our society, apart from the role of the primary family, the educational establishment and its representatives are probably the most significant secondary socializing influence upon the child. After the first five years, the child spends almost half his waking hours under the direct influence of the school until he is virtually an adult. Moreover, public education (the so-called "educational establishment") is highly formalized and institutionalized in our society. We have one rather uniform set of ideals and standards which define educational practice for us, and yet we deal with a varied and heterogeneous set of consumers. The primary socialization processes within the families of white middle-class children and those within low-income Negro, or rural migrant, or Indian families are extremely divergent. Yet we plan public education along one set of blueprints, offering the same kind of secondary socialization to all regardless of their other exposures to socialization. But let me return later to that question, because both sides can be argued in this controversy of homogeneity versus diversity.

Despite my wordiness in reaching the point, I have one primary point of criticism to make as a point of departure for my remarks here: I wish to criticize our tendency in educational research to view the role of the teacher as merely that of intellectual coach or trainer, a steward in custody of the child's intellectual-cognitive talents and skills. Traditionally, we restrict our conception of the teacher to this narrowly defined role. We analyze the manner of her management and utilization of materials and resources related to the child's accumulation of verbal, mathematical, logical, and information-processing skills. We limit our investigation of curricular content and structure in terms of these functions. And sad to say, when we set out to build better mousetraps, we design new and better curricular models within the same circumscribed conception.

I propose, then, that as researchers, we make some concentrated effort to broaden our conception of the teacher's role, and to begin to investigate and describe both curriculum and teacher function in terms of the teacher's role as an agent of socialization, carrying out all of the functions associated with the socialization process. Instead of merely mouthing this cliche when we seek to convince the taxpayer of the comprehensive importance and all pervasive influence of public education on all facets of his child's life...let us begin to scrutinize the educational process accordingly. The literature of developmental and social psychology is rich with investigations of the socialization process in our own and other societies. But unfortunately, this literature has brought very little to bear on educational research and planning. In the balance of the time and space permitted here, I propose to offer a few suggestions and illustrations for what I see as particularly fertile and productive lines of research to be followed. But I don't know whether to talk about teaching children or teaching teachers!! Or maybe I would say the same thing in either case.

First let me consider briefly a more-or-less "ethical" issue. In years past, there was a kind of unwritten code within public education that there were certain sacred and inviolable boundaries of the spheres of influence of the school and of the family. The arena for the teacher's function was regarded to be the classroom, and her sphere of permissible influence was presumed to end somewhere shortly beyond the four walls of her classroom. There were domains reserved to the privacy and sanctity of the family as primary socializing agent: values and most attitudes were traditionally regarded as inviolably sacred to the home and family--especially those concerning sex, religion, politics, and a few other particularly delicate areas. Traditionally, the American family shared this unwritten code, and the PTA notwithstanding as a vehicle for desegregation of parents and teachers, American families resisted the overlapping socialization influence of the public school. To some extent, this code has begun to break down, especially as the family has in some measure abdicated its role as socialization agent in later years of child development. Gradually, schools have expanded their concept of legitimate socialization functions, and families have broadened their expectation of the school as a socializing agency. There are still those who argue that properly the role of socialization in the school ought to be circumscribed and gerrymandered out of certain spheres of behavior. Nonsense! Is it possible to swim across a river without getting wet? Is it possible, indeed, to educate a child cognitively-intellectually without touching upon and dealing with his feelings, his goals, his motivational and attitudinal structures? Human beings are simply not made to be segmented in the educational process.

There is a second quasi "ethical" issue to be considered. Our society is a diverse and heterogeneous one, in which we embrace a variety of subcultures delineated by ethnic, linguistic, racial, geographic, educational, and socioeconomic earmarks. Within each of these subcultures, social standards vary, and corresponding socialization practices vary. Yet we plan public education as a single, massive, uniform Procrustean institutionalized system of values, beliefs, and habits defined according to some stereotype rising magically out of the middle-class pillars of society. Ordinarily, the stereotype looks like a blue-eyed, blond, Protestant, with clean fingernails, carefully cut and combed hair, a modest but secure savings account at the bank, a firm conviction that hard work in this life will earn blessings in the next to come, and a burning desire to earn good grades at school, the respect and acceptance of friends, a lot of money (and appropriate symbols thereof) in the middle years, and a secure, quiet retirement in the Caribbean in old age. He speaks Ohio-midwestern English (because the only people really worth communicating with speak that way). These days, he wants to be an Engineer, if he is a male, and is consequently fairly comfortable about being bright in math and the natural sciences, but a little embarrassed to be too knowledgeable about the arts. Of if she is female she wants to be a housewife with a modicum of domestic skill, sufficient intellect and skill to support herself if necessary, but in the meantime to be a good cocktail party conversationalist, and have ample glamour to excite her husband, and if need be, occasional others. This, then, is the stereotypical target toward which our institutionalized educational system tends to socialize all of its participants, regardless of the adult subculture to which they are bound, and regardless of the relevancy or irrelevancy of these values and habits to each one's own real world. Now let me clarify the point I'm making: I wish neither to condemn nor endorse this stereotype as a practical target for institutionalized socialization. I merely want to demand that it be given some analytic attention. First, I would suggest that we need not resolve the issue with a simple Yes or No. We need to tease apart the various elements of middle-class socialization and determine which values, beliefs, or habits are universally serviceable ones, as opposed to others which are trivial and superficial. For example, speaking midwestern English may be no more serviceable than speaking the Gullah Negro dialect of South Carolina, under certain specific conditions of reality within a subculture. Good strategy may simply advise speaking Spanish when in Madrid, and English when in Cleveland, if one's purpose and goals lie in Madrid or in Cleveland. On the other hand, certain elements of achievement motivation, such as perseverance and curiosity, may be almost universally serviceable regardless of one's goals or purposes. Personal hygiene and cleanliness may be serviceable purely from a medical point of view. To resolve this question about the validity of middle-class values which are the backbone of public school socialization, we need to break down the stereotype into its components, and to ascertain which (if any) elements may be serviceable universally for all members of our society, which may be of limited service to members of some subcultures but not others, and which (if any) may simply be useless and superfluous residues of traditionalism.

A second point I would make before leaving this issue is this: Procrustean education is usually bad education. Stretching the guest to fit the bed is not substitute for building the bed to fit the guest. Gradually we have come to recognize that in the cultivation of intellectual skills, all children do not begin at the same point, and particular procedures of training are not equally effective for all children. In that remote day toward which I aspire when educational researchers will have something substantial to say about the socialization process in education, I assume we may likewise recognize that we need more than one socialization model for different kinds of children as members of different subcultures. I would direct you to Boyd McCandless's textbook: Children and Adolescents for a most exciting discussion of "The Middle Class Teacher and the Every Class Child."

Now--having used half my time to talk about issues to which many of you must have responded with a "So what else is new; I've heard all of that before" attitude--let me now offer something more specific about potentially worthwhile lines of investigation to better understand the socializing role of the teacher, and eventually to plan and implement better models for teacher function.

To structure this, let me first identify two major devices of socialization, or vehicles through which the teacher may serve as an agent of socialization: (1) as manipulator of reward and punishment contingencies for all kinds of behavior displayed by the child, and (2) as a highly visible and potent model providing an example to be emulated by the child as he seeks new ways of behaving. In both cases, these elements of the teacher's role are inevitably present, whether they are explicitly planned and examined as a part of the curriculum or not.

I. The Teacher as Manipulator of Rewards and Incentives

The most direct means of function of an agent of socialization is simply through the management of reward and punishment contingencies related to various behaviors. The parent socializes by both implicit and explicit reward of desired behaviors, and punishment of undesired behaviors. This function is assumed by the teacher as the child moves into a school setting, and the devices as well as the standards utilized by the teacher may be either incongruent or congruent with those the child has experienced earlier in his primary socialization within the family.

A variety of techniques may be available to the agent of socialization, ranging from basic physical punishment and tangible bribes or rewards (paddling, candy, ice cream cones), to symbolic devices (black marks for bad behavior and gold stars for good), to interpersonal warmth and affection (nurturance, affection, social acceptance, etc.). Most teachers utilize the full gamut of such devices in varying degrees. And children vary widely in their responsiveness to and experience with these various kinds of reinforcers. In general, middle class children are more highly responsive to interpersonal and social rewards and punishments (warmth, verbal approval, social rejection, etc.) than are lower class children, whose experience seems to be greater with tangible rewards and punishments. Thus, to the extent that teachers are inclined to gravitate toward the middle-class values and habits, they may utilize techniques that are congruent with earlier socialization for the middle-class child but incongruent for the lower-class child. Perhaps early education requires either revision of the teacher's technique, or re-socialization of the child to restandardize his vocabulary of rewards and punishments.

A number of investigations have demonstrated the extent to which social rewards and incentives (social acceptance, approval, and affection) are potent incentives used by the teacher to control the performance of the child in the school setting. For examples of worthwhile research along these lines, I would direct you to the work of Stevenson, Hartup, and Moore at Minnesota; of Gewirtz and Baer at Washington and later at Kansas; of Sears at Harvard and Stanford; and for interesting research arguing the efficacy of any kind of reinforcement, so long as it is standardized and systematic, to the work of Horowitz, Etzel, and others at the University of Kansas, and of Miller and others at Peabody.

There are also marked differences among children in their capacity to suspend gratification in their pursuit of goals. The "DGS" (Delayed Gratification Syndrome) has been identified as a differential characteristic of the middle and lower classes in our society, with the middle class child responding well to promised but delayed rewards and the lower class child responding better to immediate rewards. Presumably, certain kinds of training, both with respect to cultivated extension of the delay interval, as well as with respect to acquisition of capacity for self-administered intermediate symbolic rewards are required to fully develop the child's capacity to control his behavior in terms of more remote and distant goals instead of in terms of immediacy only. This element of socialization would be particularly critical in the teacher's role at the preschool and early elementary level with socioculturally disadvantaged children.

Along these lines, then, it follows that analysis of the role of the teacher must direct attention squarely to her management of reinforcement contingencies. Meyer and Dopyera at Syracuse have pursued some initial efforts along these lines, attempting to identify and quantify the teacher's utilization of sanctions for behavior in the classroom. The analysis of maternal teaching style in mother-child interactions studied by Hess and Shipman touches upon related issues. But on the whole, surprisingly few efforts to analyze curriculum and management of the teaching process have included adequate representation of this dimension of the teacher's role. We need to know a great deal more about the vocabulary of rewards, incentives, and goals through which the teacher and the learner communicate in the educational process. And we need to apply what knowledge we already have a great deal more explicitly in planning new and better curricula.

II. The Teacher as Exemplary Model

A second device through which the teacher serves as agent of socialization is simply through her provision of an example with which the child may identify and after which the child may model his behavior through copying and imitation. As in the case of reinforcement management, the teacher may provide a model which is more congruent with prior experience of the middle-class child than for the lower-class child. In fact, unfortunately it is conceivable that the teacher may be so alien for some children as to provide an inverse model to be shunned rather than copied. Moreover, the teacher's behavior may or may not be a serviceable example for learning appropriate adult behavior defined according to the subculture of the child. Just as female adults may be inappropriate models for boys in kindergarten, we must also consider the validity of adult white models for Negro or Indian children. Congruent with my earlier remarks, I would suggest that we need not throw the baby out with the bath water, but we should examine critically the validity of the teacher as a model or example, and isolate the effective and appropriate elements from the irrelevant or inappropriate.

In any case, the modeling function of the teacher is an aspect of her role which is carried out implicitly and with little awareness of its significance. Unfortunately, direction of attention into this important aspect of her role as socialization agent may make the teacher self-conscious and eventually less effective as a teacher. Nevertheless, I would insist that there be full understanding of the nature of her function as a model and example, and of her capacity for using this function effectively and to advantage. Very few, if any, curricular analysis systems that I have encountered even approach this aspect of teacher function.

The research in child development along these lines has been particularly rich in recent years, but largely confined to parent-child interaction and familial socialization. I would call your attention to the work of Bill Hartup, Ross Parke, Richard Walters, Al Bandura, and Leonard Berkowitz along these lines. There has been, until recently, a predominance of interest in aggressive and dependent behavior, but there is, of course, no real reason for confining research to those areas as we explore the modeling role of the socializing agent. Moreover, the teacher is a "manager" of the peer group as a potent socializing force, and her management of group dynamics and interpersonal influence is critical in steering peer group socialization of the child.

Now, let me shift the structure a bit. Instead of further discussing functional aspects of the teacher's role in socialization, let me turn to the content of her role. What specific areas of development may she influence as an agent of socialization? I will confine myself to five categories which I regard as critically significant and closely interrelated within the overall scheme of education: (1) cultivation of particular learned incentives, goals, and values; (2) cultivation of socially defined habits as preferred instrumental routes to goals; (3) facilitation of development of a healthy and realistic conception of one's self and one's role in society; (4) facilitation of understanding of society's standards of desirability and acceptance; and (5) facilitation of internalization of appropriate moral standards or elements of conscience which autonomously direct behavior along socially appropriate and productive routes.

Let me stress again that I am not simply "taking these on" as additional functions of the teacher beyond her concern for intellectual and cognitive development; I argue that they are integral aspects of the accrual of cognitive and intellective skills and behaviors. Kuno Beller makes this point tellingly in his own research. School achievement is *performance*, and performance is the product of cognitive function in combination with motivational, attitudinal, and emotional components.

TEACHING STYLES AND THEIR EFFECTS ON PROBLEM-SOLVING BEHAVIOR IN HEADSTART PROGRAMS

E. Kuno Beller

This study was undertaken to validate a number of scales which we have constructed for the purpose of measuring styles of teaching and classroom climates. Two methods of validity were employed. One method consisted of asking the regional educational supervisor of the Summer Headstart Program to select three teachers whom she considered good and potentially effective teachers, and three other teachers whom she considered as lacking the strong points of the first three. After the supervisor had made the selection, she was asked to state as explicitly as possible those characteristics of "good and effective" teachers that served as criteria for her selection. The information thus elicited from the supervisor will be reported in the procedure section below. The validation consisted of applying the scales we had constructed to the six teachers, and seeing whether our scales would differentiate between these two sets of teachers.

The second method of validation was that of predictive validity. In order to find out whether our scales measured effectiveness of teaching, we tested certain predictions from our measures of teaching styles to variations in learning and performance on our intrinsic problem-solving task for children who had been exposed to different teachers.

Subjects: Eighteen teachers of Get Set and Headstart classes, 122 children attending six different Summer Headstart classes, and twelve different Get Set classes.

Procedure: Three of the six Summer Headstart teachers were selected by the regional Headstart Supervisor as "good and effective" teachers, while three other teachers were selected on the basis of lacking these characteristics. When the supervisor was asked to describe what she considered the essential characteristics of the three "good and effective teachers," she offered the following three characteristics: warmth, having a well-prepared program, and being child-oriented. The other three teachers, presumably, lacked these characteristics. Since two of our scales, namely, closeness to children and child versus group-oriented (see attached scales) corresponded almost exactly to "warmth" and "child-orientation" as defined by the supervisor; and since the third characteristic, namely, being well-prepared, was at least relevant to two of our scales dealing with curriculum, we could expect valuable validity information from a comparison of the two sets of three teachers on the basis of their scores on our scales. As indicated earlier, our second validity criterion consisted of predictions from our scales to the children's performance on the intrinsic problem-solving task. All children were administered thirty trials of our intrinsic problem-solving task. Our prediction was that successful performance on these tasks will be associated with high scores on our scales of approval, closeness to children, individual orientation, flexible classroom arrangement, encouraging exploration (in approach to learning), flexibility in programming, and low scores on our scales of control of children, control of materials by teachers, and distinction between work and play.

The same six observers who carried out observations in a study (Beller, 1969) were rotated in pairs and assigned randomly to twelve observations in each of the six classrooms. The observations were the same as the ones described in the previous study (Beller, 1969). These observations concentrated for fifteen minutes on the dependency sequences in the interaction between the observed child and his teacher. The observations were always carried out by pairs of observers simultaneously in order to obtain reliability for both our observation categories of child-teacher interaction and our scales measuring teaching styles. However, observers scored teachers on the teaching style scales only twice, that is, after six and twelve observations of the same teacher.

The Problem-Solving Task: The problem consisted of finding an object hidden under one of three boxes. The three boxes were identical in shape and differed from one another only in size. The solution of the problem was the discovery that the object was always hidden under the middle-sized box. The child was told: "There is a way you can always tell which box it is hidden under. I always put it under the correct box." The experimenter permitted the child to correct errors in each trial, therefore two errors were possible on each trial. The boxes were presented in a standardized, random order on 30 successive trials.

Conditions of Reinforcement: The learning task was presented under two conditions of reinforcement: extrinsic social and intrinsic nonsocial reinforcement. Under the condition of extrinsic social reinforcement, the child was first shown the object which was to be hidden under one of the three boxes. He was asked to point to the box which hid the object. The child was told that the experimenter would inform him whether his pointing response was correct or incorrect. When his response was incorrect, the child was encouraged to try again. When the child made the correct response, he received confirmation and verbal praise for his achievement, consisting of the comments, "Good," and "Very good." Under the condition of intrinsic or nonsocial reinforcement, the child was encouraged to pick up the box and see for himself whether his response was correct or not. Once he made the right response and discovered the object, he received no other reinforcements, that is, in the intrinsic condition the child had to rely on the perception of the outcome of his own performance to discover the correct solution. The experimenter was trained to provide as little social reinforcement as possible through smiles, gestures, eye movements, etc., under the intrinsic condition. In short, the source of reinforcement was an intrinsic part of the task, namely, solving the problem. Moreover, the criterion for the correctness of the solution was an objective one. In contrast, under the extrinsic condition, the source of the reinforcement was subjective and emotional. When the child made a correct response, the experimenter provided the cue through a verbal comment, based on the decision of the experimenter, and indicated her approval through broad smiling or other facial and body gestures. In short, the reinforcement was extrinsic to the task itself and came from a social agent. This has been the rationale for our referring to the first condition of reinforcement as intrinsic nonsocial and to the second as extrinsic social.

Results: The data collected for this study have been processed and are currently being analyzed. Several findings have been assembled and will be presented in a preliminary way for the purpose of the present report.

In order to determine the empirical structure of our scales of Teaching Style, we factor analyzed the data obtained on 18 different Headstart teachers. The outcome of this factor analysis is presented in Table 1. Each correlation matrix, with squared multiple correlations as communality estimates, was subjected to principal axis factor analysis by means of the BMD-X72 factor analysis program. Oblique simple loading rotation was also performed with the number of factors rotated being determined by the number of initial factors with eigen-values greater than unity. An inspection of Table 1 shows that our scales yielded two fairly independent Factors (r=.22) for nine out of the ten scales which we have constructed. The first Factor may be described as a Social Factor and the second as a Curriculum Factor. On the basis of the first Factor, it would seem that we can distinguish between teachers who are controlling, detached, oriented towards a group rather than an individual child, concerned with providing factual material, criticizing the child and finally discontent with their teaching functions as over and against a teacher who gives the children a good deal of freedom, relates affectionately and sensitively to individual children, is more child

TABLE 1

FACTOR ANALYSIS OF TEN SCALES OF "TEACHING STYLES" BASED ON DATA OBTAINED FROM SIX OBSERVERS OF EIGHTEEN HEADSTART TEACHERS

SCALES	FACTOR I	FACTOR II
Controlling Children	.94	
Closeness to Children	.84	
Individual Child Oriented	.70	
Approval Oriented	.92	
Encouraging Exploration (Approach to Learning)	.76	
Enjoying Teaching	.87	
Work-Play Distinction		.87
Flexible Classroom Arrangement		.83
Flexible Curriculum		.60
Control of Materials by Children	.53	.52

oriented, encouraging individual children to explore and appear to enjoy their teaching function. On the basis of the second Factor, the Curriculum Oriented Factor, we might distinguish between teachers who emphasize the distinction between work and play, who insist on a rigid arrangement of the classroom, and who emphasize routine planning with a minimum of spontaneity as over and against teachers who let the children move freely between play and work, who let the classroom arrangements vary with activities and needs of individual children and who improvise spontaneously the curriculum. It has to be remembered that these factors emerged from the study of teachers in pre-school classes. Conceptually, the important conclusion to be drawn from the findings presented in Table 1 is that our scales do provide a meaningful pattern of teacher behavior which consists of a social interpersonal component and of a curriculum component.

The first validity test of our scales consisted of a comparison between the two groups of Headstart teachers selected as "good" and "poor" teachers by an educational supervisor. When we compared the two groups on our ten scales of teaching style, we found that eight of the ten scales differentiated the two groups of teachers in the predicted direction. (See Table 2). Thus the good teachers were characterized by giving the children more freedom, being more affectionate in their interaction with children, being more oriented towards the individual child, encouraging individual children, and finally enjoying their teaching function. With regard to curriculum, the group of good teachers were characterized by our scales as making less distinction between work and play, being somewhat less rigid in their classroom arrangement, and giving the children more opportunity to control materials than the group of teachers designated as poor teachers by the educational supervisor. Clearly, the direction of these differences as determined by our scales would be what one would expect in distinguishing between good (warm) and poor (cold) teachers, particularly for pre-school classes.

TABLE 2

AVERAGE SCORES OF THREE GOOD (WARM) AND THREE POOR (COLD) TEACHERS ON TEN SCALES OF TEACHING STYLE

SCALES	TEACHERS	
	Good (Warm)	Poor (Cold)
Controlling Children (9-1)*	6.00	3.33
Closeness to Children (1-9)	5.70	3.90
Individual Child Oriented (1-9)	4.80	4.30
Approval Oriented (9-1)	3.40	4.70
Encouraging Exploration (1-9)**	5.10	5.60
Enjoying Teaching (9-1)	3.20	4.60
Work-Play Distinction (9-1)	5.08	4.00
Flexible Classroom Arrangement (1-9)	6.80	6.70
Flexible Curriculum (1-9)**	5.13	5.33
Control of Materials by Children (1-9)	4.20	3.80

* 1-9 indicates that high score means high on scale.
9-1 indicates that high score means low on scale.

** These two scales failed to go in the predicted direction.

The second validity test of our scales consisted of comparisons on success in problem-solving under intrinsic reinforcement conditions between the children of teachers who fell above and below median on our scales of teaching style. Figures 1 to 4 represent learning curves on our problem-solving tasks for children of teachers falling above and below the median on five of our scales on which a consistent difference between the two groups emerged. Inspection of Figures 1 to 4 shows that children of teachers who made less distinction between work and play (Figure 1), who interacted affectionately with the children (Figure 2), who were more flexible in their classroom arrangement (Figure 3), and more flexible in programming their instruction (Figure 4) performed better on our problem-solving task under conditions of intrinsic reinforcement than did children from teachers with opposite characteristics. In the one other instance in which a trend barely appeared to emerge, the trend failed to go in the direction which we would have predicted. Children of teachers who appeared to be discontent with their teaching function performed as well as or better than other children on problem-solving under conditions without social support. On the remaining five scales, no clear trend emerged in our comparisons.

One might conclude from these findings that our second validity test gave some support to our scales since forty per cent of the scales had the predicted consequences for certain teacher characteristics to be associated with better problem-solving ability of children. None of the remaining scales yielded a clear trend in the opposite direction.

Implications for Further Study: The initial investigation of our scales has yielded both conceptual and empirical validity of the usefulness of classifying teacher behavior and as a predictive tool for pupil success on cognitive tasks. The scales enable us to distinguish between a social interpersonal interaction component and a curriculum component in teacher behavior. We plan to further apply these scales in conjunction with the intervention program which is being planned for the Headstart Centers at Temple University as well as two different Follow Through Programs being planned by the Philadelphia School System.

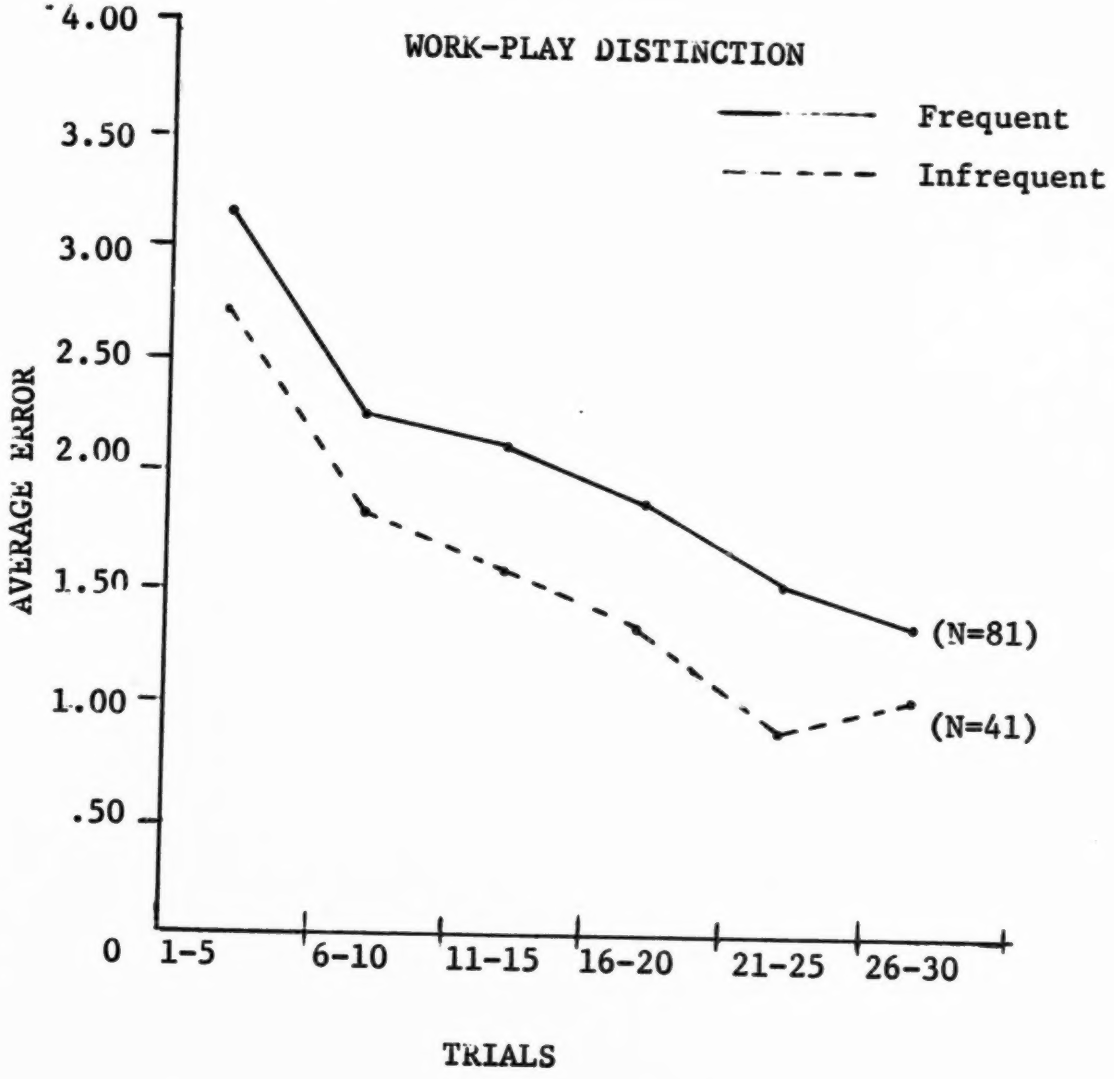

FIG. 1. Problem solving performance over 30 trials by children from teachers making frequent or infrequent work-play distinctions.

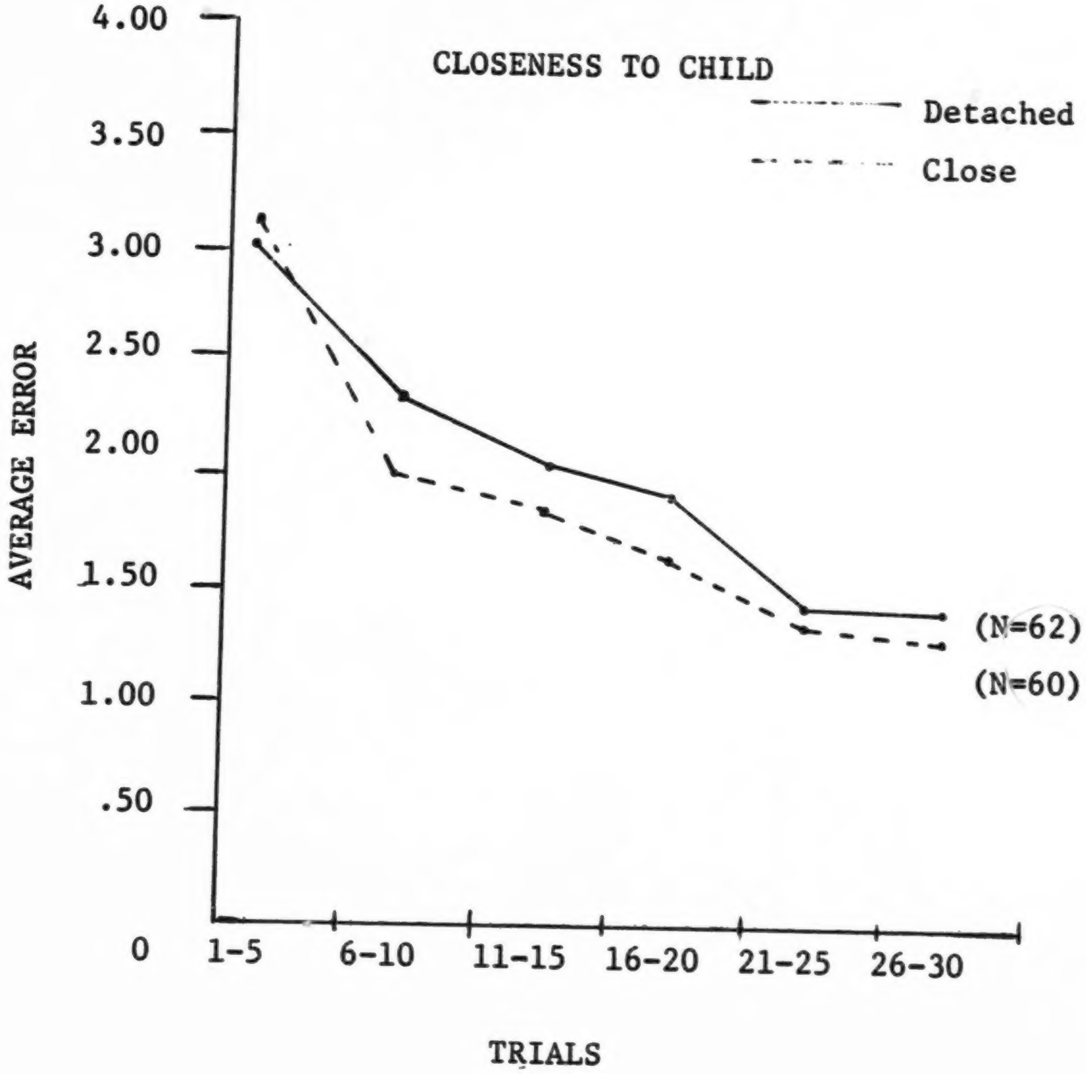

FIG. 2. Problem solving performance over 30 trials by children from teachers who are predominately detached or close to the child.

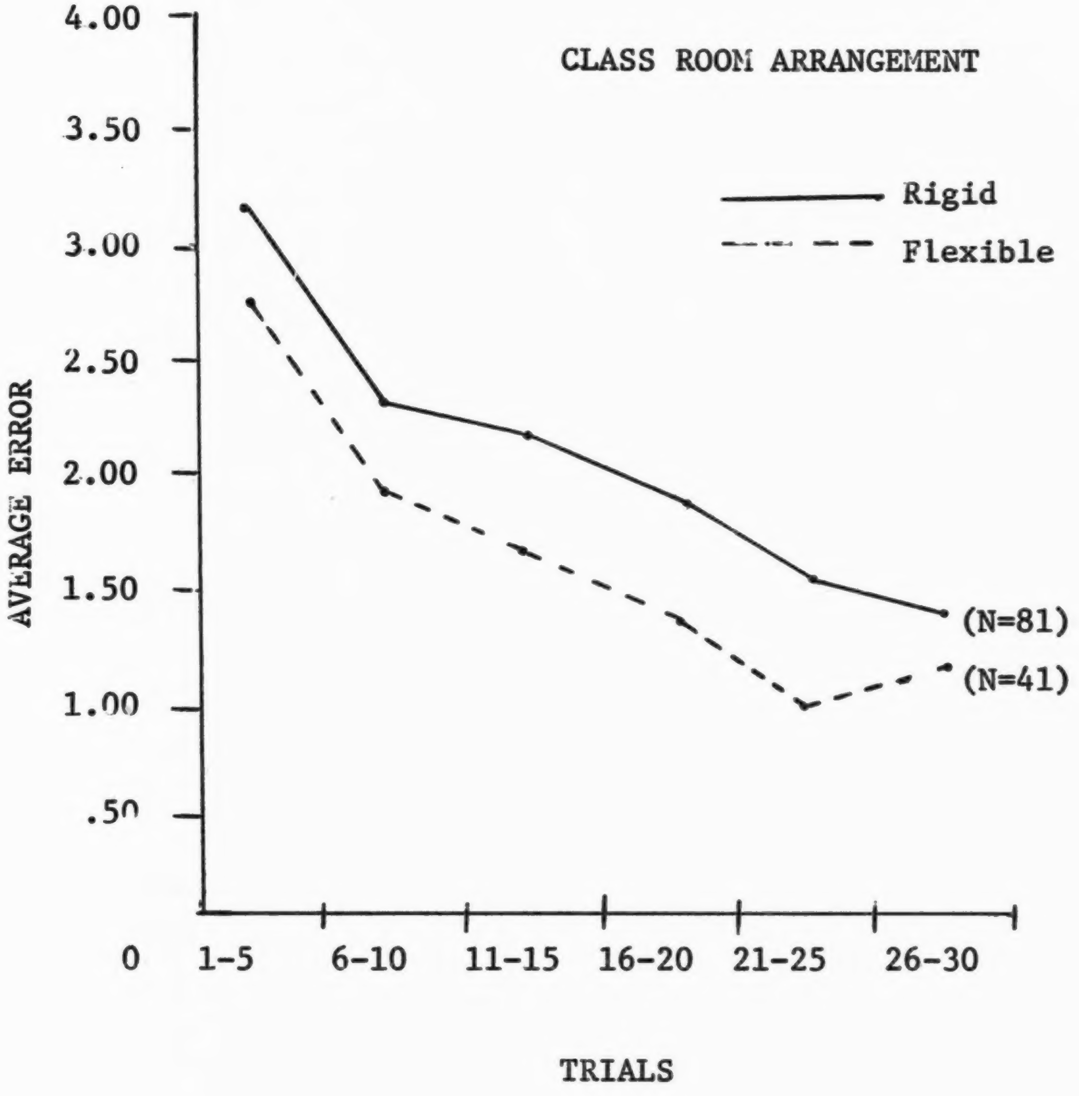

FIG. 3. Problem solving performance over 30 trials by children of teachers maintaining rigid or flexible classroom arrangements.

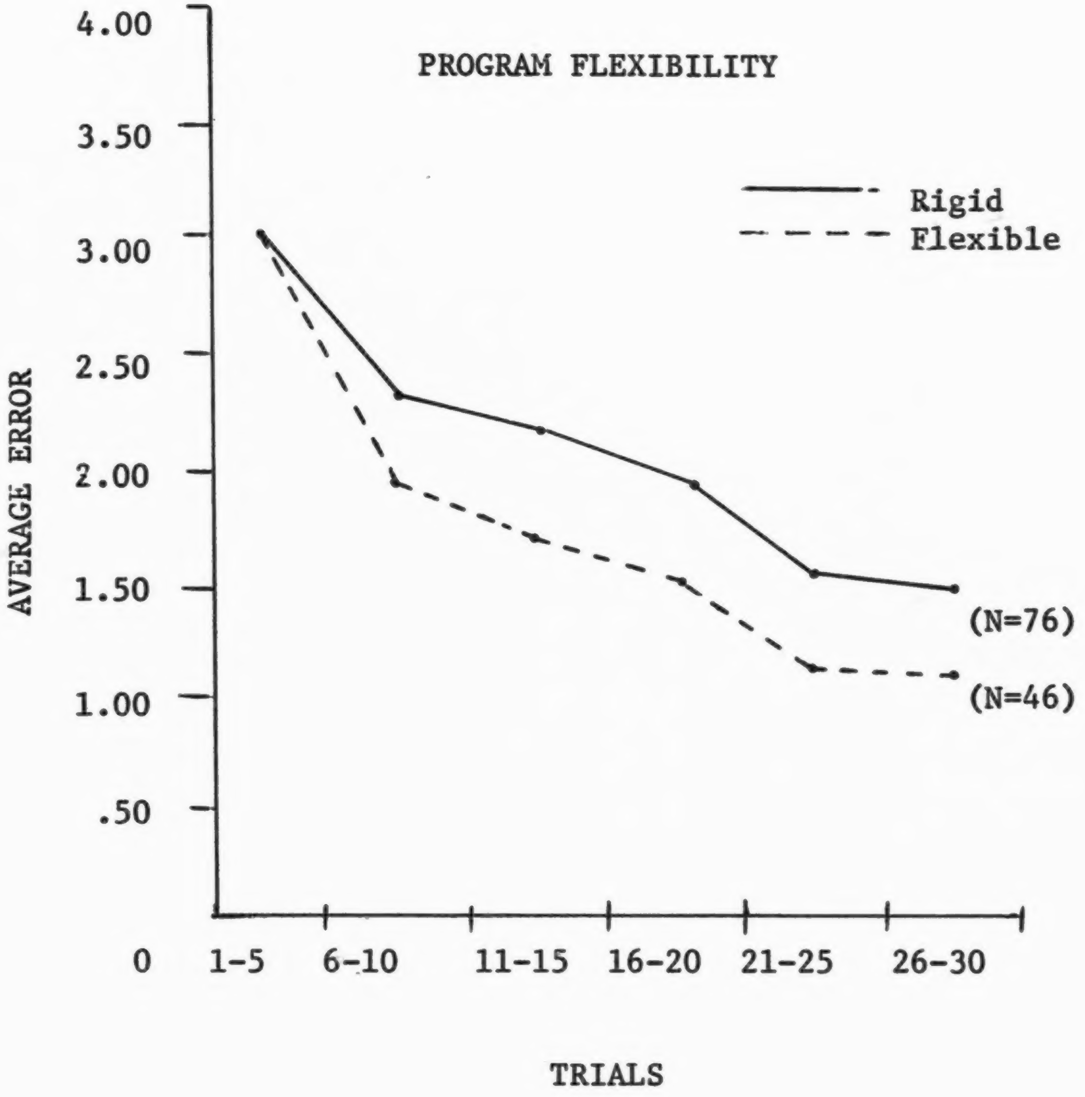

FIG. 4. Problem solving performance over 30 trials by children of teachers maintaining rigid or flexible teaching programs.

BELLER SCALES

TEACHER RATINGS

Control of Children

Please rate the extent to which the teacher controls the class by issuing orders and commands. Is a suggestion mandatory or optional?

1.__________The teacher issues peremptory orders.

2.__________

3.__________The teacher's orders and suggestions are not completely coercive.

4.__________

5.__________The teacher is coercive in some matters, but optional suggestions are also used.

6.__________

7.__________The teacher tends to avoid coercion wherever possible.

8.__________

9.__________The teacher consistently allows the children a very wide range of free choice.

BELLER SCALES

TEACHER RATINGS

Distinction between Work and Play

Please rate the extent to which the teacher distinguishes between work and play.

1. __________Distinguishes always.

2. __________

3. __________Distinguishes often.

4. __________

5. __________Permits some overlap.

6. __________

7. __________Permits much overlap.

8. __________

9. __________Makes very little distinction.

BELLER SCALES

TEACHER RATINGS

Approval-Disapproval

Please rate the direction of the teacher's critical reaction to the behavior of the children. Is the teacher's reaction generally one of praise and approval, or does the teacher usually blame and disapprove?

1.__________Praise and commendation given frequently and liberally.

2.__________

3.__________Emphasis on approval. Disapproval is mild and infrequent.

4.__________

5.__________Approval and disapproval are balanced.

6.__________

7.__________Emphasis on disapproval. Approval is mild and infrequent.

8.__________

9.__________Continuous disapproval and fault-finding.

BELLER SCALES

TEACHER RATINGS

Closeness to Children

Please rate the extent to which the teacher seems to be really close to and in touch with the children.

1.__________The teacher is very detached.

2.__________

3.__________The teacher is somewhat aloof.

4.__________

5.__________The teacher interacts easily with the children.

6.__________

7.__________The teacher is somewhat involved in the emotion and feelings of the children.

8.__________

9.__________The teacher is very sensitive and responsive to the feelings and needs of the children.

BELLER SCALES

TEACHER RATINGS

Enjoyment of Teaching

Please rate the general attitude expressed by the teacher regarding her teaching experience.

1.__________Fully enjoys each day's activities and discusses work with enthusiasm and involvement.

2.__________

3.__________Enjoys teaching most of the time and generally manifests interest in work.

4.__________

5.__________Has mixed feelings and fluctuates in attitude about teaching.

6.__________

7.__________Sometimes expresses dissatisfaction regarding teaching.

8.__________

9.__________Expresses discontent with teaching and performs duties in perfunctory manner.

BELLER SCALES

TEACHER RATINGS

Individual vs. Group Needs

Please rate the extent to which the teacher seems to be concerned with and attentive to the needs of individual children or the class as a whole. Does the teacher direct her efforts toward the group as a group rather than allowing children to be "special" or "different"? Or does she become deeply involved with a particular child or a few children rather than with the group as a whole?

Please do not rate the teacher on how well she attends to individual or group needs, but only the direction of her concern.

1.__________Group needs dominant.

2.__________

3.__________Group needs are more prominent than individual needs.

4.__________

5.__________Varies between group needs and individual needs.

6.__________

7.__________Individual needs are more prominent than group needs.

8.__________

9.__________Individual needs dominant.

BELLER SCALES

TEACHER RATINGS

Classroom Arrangement

Please rate the teacher to the extent to which she arranges the place, i.e., physical location and movement of children in the group.

1.__________ Children's place in the group arranged and assigned by teacher: almost all of the time.

2.__________

3.__________ Children's place in the group arranged and assigned by teacher: much of the time.

4.__________

5.__________ Children's place in the group arranged and assigned by teacher: from time to time.

6.__________

7.__________ Children have considerable freedom in choosing their own physical location and movement in the group.

8.__________

9.__________ Children have much freedom in choosing their place. The teacher functions primarily as a facilitator of a child's choice.

BELLER SCALES

TEACHER RATINGS

Approach to Learning

Please rate the extent to which the teacher gives the pupils learning experiences which are assortments of facts, exercises or practice by repetition. For example, does the teacher stimulate the children to wonder or does she present a lesson or demonstration expecting the children to learn by practice and imitation?

Please do not rate the teacher on how successfully she either supplies facts or stimulates thinking. Consider only the extent to which she seems to be trying to do one or the other.

1.__________ The teacher provides demonstrations, facts and information.

2.__________

3.__________ The teacher emphasizes mainly the acquisition of skills and information, but occasionally provides opportunity for spontaneous inquiry and expression.

4.__________

5.__________ The teacher does some of both; giving information, teaching skills and inquiry and independent thought.

6.__________

7.__________ The teacher emphasizes mainly stimulation of independent inquiry and expression, and only occasionally provides information and skill practice to her children.

8.__________

9.__________ The teacher encourages the children to think and explore. She provides facts and skill training only when requested by the child or as a part of the child-initiated activities.

BELLER SCALES

TEACHER RATINGS

Flexibility in Programming

Please rate the extent to which the teacher's activities are tied to an organized schedule. Is the class routine so rigidly scheduled that the reactions of children are disregarded when they do not fit the teacher's program or does the teacher seem to adapt her curriculum to the child's need and situational context?

1.__________The teacher always follows a schedule or planned program.

2.__________

3.__________The teacher tends to follow a planned program but deviates occasionally, allowing changes because of unforeseen events.

4.__________

5.__________The teacher follows an organized schedule some of the day, but at other times of the day she improvises programs in response to situational demands.

6.__________

7.__________The teacher sometimes follows a loosely organized schedule, but most of the time she provides the materials, letting the children direct their activities.

8.__________

9.__________The teacher does not seem to impose any specifically planned program, but functions essentially as a catalyst and facilitator, channelizing interests and activities of individual children or subgroups of children.

520

BELLER SCALES

TEACHER RATINGS

Control of Materials

Please rate the extent to which the teacher controls instructional materials.

1.__________Teacher clearly and firmly directs the use of materials.

2.__________

3.__________Teacher directs use of materials most of the time.

4.__________

5.__________Teacher and children fluctuate in determining choice and use of materials.

6.__________

7.__________Children select materials to be used most of the time. Teacher remains in the background or facilitates.

8.__________

9.__________Children are dominant, may select and use materials at will.